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=> s D-aminoacylase and py<2003
   1 FILES SEARCHED...
   6 FILES SEARCHED...
L1          237 D-AMINOACYLASE AND PY<2003

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2             79 DUP REM L1 (158 DUPLICATES REMOVED)
                  ANSWERS '1-12' FROM FILE MEDLINE
                  ANSWERS '13-15' FROM FILE AGRICOLA
                  ANSWERS '16-19' FROM FILE JICST-EPLUS
                  ANSWERS '20-24' FROM FILE BIOTECHNO
                  ANSWERS '25-33' FROM FILE BIOSIS
                  ANSWERS '34-68' FROM FILE CAPLUS
                  ANSWERS '69-70' FROM FILE BIOTECHDS
                  ANSWERS '71-79' FROM FILE SCISEARCH

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FILE 'MEDLINE, AGRICOLA, DRUGU, JICST-EPLUS, CABA, BIOTECHNO, BIOSIS, CAPLUS, LIFESCI, BIOTECHDS, EMBASE, BIOENG, SCISEARCH' ENTERED AT 09:21:33 ON 05 JUL 2006

L1 237 S D-AMINOACYLASE AND PY<2003
L2 79 DUP REM L1 (158 DUPLICATES REMOVED)

=> d l2 ibib abs total

L2 ANSWER 1 OF 79 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2002641090 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12381838
TITLE: Structural-based mutational analysis of D-aminoacylase from Alcaligenes faecalis DA1.
AUTHOR: Hsu Cheng-Sheng; Lai Wen-Lin; Chang Wei-Wei; Liaw Shwu-Huey; Tsai Ying-Chieh
CORPORATE SOURCE: Institute of Biochemistry, National Yang-Ming University, Taipei, Taiwan.
SOURCE: Protein science : a publication of the Protein Society, (2002 Nov) Vol. 11, No. 11, pp. 2545-50.
Journal code: 9211750. ISSN: 0961-8368.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 29 Oct 2002
Last Updated on STN: 9 May 2003
Entered Medline: 8 May 2003

AB D-Aminoacylase is an attractive candidate for commercial production of D-amino acids through its catalysis in the zinc-assistant hydrolysis of N-acyl-D-amino acids. We report here the cloning, expression, and structural-based mutation of the D-aminoacylase from Alcaligenes faecalis DA1. A 1,007-bp PCR product amplified with degenerate primers, was used to isolate a 4-kb genomic fragment, encoding a 484-residue D-aminoacylase . The enzyme amino-terminal segment shared significant homology within a variety of enzymes including urease. The structural fold was predicted by 3D-PSSM to be similar to urease and dihydroorotase, which have grouped into a novel alpha/beta-barrel amidohydrolase superfamily with a virtually indistinguishable binuclear metal centers containing six ligands, four histidines, one aspartate, and one carboxylated lysine. Three histidines, His-67, His-69, and His-250, putative metal ligands in D-aminoacylase, have been mutated previously, the remaining histidine (His-220) and aspartate (Asp-366) Asp-65, and four cysteines were then characterized. Substitution of Asp-65, Cys-96, His-220, and Asp-366 with alanine abolished the enzyme activity. The H220A mutant bound approximately half the normal complement of zinc ion as did H250N. However, the C96A mutant showed little zinc-binding ability, revealing that Cys-96 may replace the carboxylated lysine to serve as a bridging ligand. According to the urease structure, the conserved amino-terminal segment including Asp-65 may be responsible for structural stabilization.

L2 ANSWER 2 OF 79 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2002440295 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12198309
TITLE: Crystallization and preliminary crystallographic analysis of a D-aminoacylase from Alcaligenes faecalis DA1.
AUTHOR: Hsu Cheng Sheng; Chen Shen Jia; Tsai Ying Chieh; Lin Ting Wan; Liaw Shwu Huey; Wang Andrew H J
CORPORATE SOURCE: Institute of Biochemistry, National Yang-Ming University, Taipei, Taiwan.
SOURCE: Acta crystallographica. Section D, Biological

crystallography, (2002 Sep) Vol. 58, No. Pt 9, pp. 1482-3. Electronic Publication: 2002-08-23. Journal code: 9305878. ISSN: 0907-4449.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200302
ENTRY DATE: Entered STN: 29 Aug 2002
Last Updated on STN: 14 Feb 2003
Entered Medline: 13 Feb 2003

AB D-Aminoacylases catalyze the hydrolysis of N-acyl-D-amino acids into D-amino acids with the aid of zinc ions. The first D-aminoacylase crystal from Alcaligenes faecalis has been obtained in hanging drops at pH 5.6 by the vapour-diffusion method using 30% polyethylene glycol 4000 as precipitant. It belongs to space group P2(1)2(1)2(1), with unit-cell parameters a = 60.2, b = 76.6, c = 135.3 A. Reflections to 1.2 A resolution are observable. An initial atomic model with 472 residues has been built based on SeMet SAD data at 1.8 A resolution. Unexpectedly, the structure revealed a novel metal centre in the amidohydrolase superfamily.

L2 ANSWER 3 OF 79 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2001341332 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11317343
TITLE: Simultaneous analysis of enantiomeric composition of amino acids and N-acetyl-amino acids by enantioselective chromatography.
AUTHOR: Yu Y P; Wu S H
CORPORATE SOURCE: Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan.
SOURCE: Chirality, (2001 May 15) Vol. 13, No. 5, pp. 231-5. Journal code: 8914261. ISSN: 0899-0042.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200106
ENTRY DATE: Entered STN: 18 Jun 2001
Last Updated on STN: 18 Jun 2001
Entered Medline: 14 Jun 2001

AB Among the three chiral columns, CHIROBIOTIC T, CHIRLPAK WH, and CHIRALCEL OD-R, tested for the separation of racemic amino acids and N-acetyl-amino acids, only CHIROBIOTIC T chiral column which is based on covalently bonded amphoteric glycopeptide, teicoplanin, as the stationary phase ligand could be successfully developed to enantiomerically separate racemic amino acids and N-acetyl amino acids simultaneously. This method can be used to determine the enantiomeric composition of amino acids and N-acetyl-amino acids in the catalysis of D-aminoacylase or L-aminoacylase and the conversion rate of N-acylamino acid racemases.
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L2 ANSWER 4 OF 79 MEDLINE on STN DUPLICATE 14
ACCESSION NUMBER: 2005557061 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16232749
TITLE: Enzymes acting on peptides containing D-amino acid.
AUTHOR: Asano Y; Lubbehusen T L
CORPORATE SOURCE: Biotechnology Research Center, Toyama Prefectural University, 5180 Kurokawa, Kosugi, Toyama 939-0398, Japan.
SOURCE: Journal of bioscience and bioengineering, (2000) Vol. 89, No. 4, pp. 295-306. Journal code: 100888800. ISSN: 1389-1723.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: NONMEDLINE; PUBMED-NOT-MEDLINE
ENTRY MONTH: 200511
ENTRY DATE: Entered STN: 20 Oct 2005
Last Updated on STN: 3 Nov 2005
Entered Medline: 1 Nov 2005

AB Mainly microorganisms but only a few higher organisms are presently known to express enzymes that hydrolyze peptides containing D-amino acids. These enzymes can be involved in proceedings at the bacterial cell wall, in either assembly or modification, and thus cause resistance to glycopeptide antibiotics, or mediate resistance against beta-lactam antibiotics. In other cases the in vivo function is still unknown. New enzymes screened from nature, such as D-aminopeptidase, D-amino acid amidase, alkaline D-peptidase or D-aminoacylase, offer potential application in the production of D-amino acids, the synthesis of D-amino acid oligomers by promoting the reversed reaction under appropriate conditions, or in the field of semi-synthetic antibiotics.

L2 ANSWER 5 OF 79 MEDLINE on STN DUPLICATE 15
ACCESSION NUMBER: 2000169619 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10705441
TITLE: Role of conserved histidine residues in D-aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6.
AUTHOR: Wakayama M; Yada H; Kanda S; Hayashi S; Yatsuda Y; Sakai K; Moriguchi M
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Oita University, Japan.
SOURCE: Bioscience, biotechnology, and biochemistry, (2000 Jan) Vol. 64, No. 1, pp. 1-8.
Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 21 Apr 2000
Last Updated on STN: 21 Apr 2000
Entered Medline: 13 Apr 2000

AB D-Aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) was strongly inactivated by diethylpyrocarbonate (DEPC). An H67N mutant was barely active, with a kcat/Km 6.3 x 10(4) times lower than that of the recombinant wild-type enzyme, while the H67I mutant lost detectable activity. The H67N mutant had almost constant Km, but greatly decreased kcat. These results suggested that His67 is essential to the catalytic event. Both H69N and H69I mutants were overproduced in the insoluble fraction. The kcat/Km of H250N mutant was reduced by a factor of 2.5 x 10(4)-fold as compared with the wild-type enzyme. No significant difference between H251N mutant and wild-type enzymes in the Km and kcat was found. The Zn content of H250N mutant was nearly half of that of wild-type enzyme. These results suggest that the His250 residue might be essential to catalysis via Zn binding.

L2 ANSWER 6 OF 79 MEDLINE on STN DUPLICATE 19
ACCESSION NUMBER: 96373019 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8776758
TITLE: Overproduction of D-aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6 in Escherichia coli and its purification.
AUTHOR: Wakayama M; Hayashi S; Yatsuda Y; Katsuno Y; Sakai K; Moriguchi M
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Oita University, Japan.
SOURCE: Protein expression and purification, (1996 Jun) Vol. 7, No. 4, pp. 395-9.

Journal code: 9101496. ISSN: 1046-5928.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-D45918
ENTRY MONTH: 199612
ENTRY DATE: Entered STN: 28 Jan 1997
Last Updated on STN: 28 Jan 1997
Entered Medline: 5 Dec 1996

AB We constructed the high-expression plasmid for D-aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6. The appropriate Shine-Dalgarno sequence (AAGGAG) was introduced to the eight bases upstream of start codon (ATG) of D-aminoacylase structural gene by site-directed mutagenesis, and then the 1.75-kb DNA fragment including the open reading frame was inserted into the downstream of the tac promoter of plasmid vector pKK223-3. The resultant plasmid, which was named pKNSD2, showed a high D-aminoacylase activity in Escherichia coli JM109 cells transformed with it. The enzyme was purified to homogeneity in only two steps with a final yield of 24% (sp act, 2023 U/mg).

L2 ANSWER 7 OF 79 MEDLINE on STN DUPLICATE 20
ACCESSION NUMBER: 96100942 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8541651
TITLE: Cloning and sequencing of a gene encoding D-aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6 and expression of the gene in Escherichia coli.
AUTHOR: Wakayama M; Katsuno Y; Hayashi S; Miyamoto Y; Sakai K; Moriguchi M
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Oita University, Japan.
SOURCE: Bioscience, biotechnology, and biochemistry, (1995 Nov) Vol. 59, No. 11, pp. 2115-9.
Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Biotechnology
ENTRY MONTH: 199602
ENTRY DATE: Entered STN: 27 Feb 1996
Last Updated on STN: 27 Feb 1996
Entered Medline: 13 Feb 1996

AB The gene encoding the D-aminoacylase of Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) was cloned and its complete nucleotide sequence was identified. The D-aminoacylase structural gene consists of 1452 nucleotides and encodes 484 amino acid residues. The molecular weight of D-aminoacylase was calculated to be 51,918. This value agreed well with the apparent molecular weight of 52,000 found for the purified enzyme from Alcaligenes A-6 by sodium dodecyl sulfate (SDS)-polyacrylamide gel electrophoresis (PAGE). The N-terminal amino acid sequence (NH2-SQSDSQPFDLLRAG-) predicted by the nucleotide sequence exactly matched those of the purified D-aminoacylase both from Alcaligenes A-6 and from cloned Escherichia coli (E. coli), with the exception of the removal of the N-terminal methionine processed after translation. The purified recombinant enzyme showed almost the same enzymatic properties as the native enzyme from Alcaligenes A-6. Alcaligenes A-6 D-aminoacylase showed 25-29% homology with L-aminoacylases from Bacillus stearothermophilus, porcine and humans.

L2 ANSWER 8 OF 79 MEDLINE on STN DUPLICATE 22
ACCESSION NUMBER: 96015170 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8537313

TITLE: Primary structure of N-acyl-D-glutamate amidohydrolase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6.
AUTHOR: Wakayama M; Ashika T; Miyamoto Y; Yoshikawa T; Sonoda Y; Sakai K; Moriguchi M
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Oita University.
SOURCE: Journal of biochemistry, (1995 Jul) Vol. 118, No. 1, pp. 204-9.
Journal code: 0376600. ISSN: 0021-924X.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-D45918; GENBANK-D45919
ENTRY MONTH: 199602
ENTRY DATE: Entered STN: 21 Feb 1996
Last Updated on STN: 21 Feb 1996
Entered Medline: 8 Feb 1996

AB The gene coding the N-acyl-D-glutamate amidohydrolase of Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) was cloned and its complete DNA sequence was determined. The N-acyl-D-glutamate amidohydrolase structural gene consists of 1,464 nucleotides and encodes 488 amino acid residues. The molecular weight of the enzyme was calculated to be 51,490. This value is close to the apparent molecular weight of 59,000 determined for the purified enzyme from Alcaligenes A-6 by sodium dodecyl sulfate (SDS) polyacrylamide gel electrophoresis (PAGE). The N-terminal amino acid sequence of the recombinant protein exactly matches the amino acid sequence derived from the DNA sequence and that determined from the Alcaligenes A-6 enzyme (NH2-MQEKLDLVIEGGWVIDGLGG). The deduced amino acid sequence of the cloned N-acyl-D-glutamate amidohydrolase showed high sequence homology with those of N-acyl-D-aspartate amidohydrolase (46%) and D-aminoacylase (47%) from Alcaligenes A-6. This fact strongly suggests that these three enzymes have evolved from a common ancestral gene.

L2 ANSWER 9 OF 79 MEDLINE on STN DUPLICATE 26
ACCESSION NUMBER: 95006410 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7922115
TITLE: D-Aminoacylase from Alcaligenes faecalis possesses novel activities on D-methionine.
AUTHOR: Chen H P; Wu S H; Wang K T
CORPORATE SOURCE: Department of Biochemistry, China Medical College, Taichung, Taiwan.
SOURCE: Bioorganic & medicinal chemistry, (1994 Jan) Vol. 2, No. 1, pp. 1-5.
Journal code: 9413298. ISSN: 0968-0896.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199410
ENTRY DATE: Entered STN: 22 Dec 1994
Last Updated on STN: 22 Dec 1994
Entered Medline: 28 Oct 1994

AB D-Aminoacylase isolated from Alcaligenes faecalis DA1 has a great potential for future application in D-amino acids production. This paper reports for the first time that D-aminoacylase can reverse the catalysis direction on D-Met and deacylate N-Ac-D-Met-OMe and N-Ac-D-Met-Gly. The results provide important insights regarding the binding and affinity of substrates to the active site of this enzyme. Based on a systematic study of kinetic properties and relative reactivities for a broad range of substrates, a model to elucidate the reaction mechanism is proposed.

L2 ANSWER 10 OF 79 MEDLINE on STN DUPLICATE 28
ACCESSION NUMBER: 93372487 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7763986
TITLE: Production, purification, and characterization of D -aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6.
AUTHOR: Moriguchi M; Sakai K; Miyamoto Y; Wakayama M
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Oita University, Japan.
SOURCE: Bioscience, biotechnology, and biochemistry, (1993 Jul) Vol. 57, No. 7, pp. 1149-52. Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Biotechnology
ENTRY MONTH: 199310
ENTRY DATE: Entered STN: 9 Aug 1995
Last Updated on STN: 3 Feb 1997
Entered Medline: 4 Oct 1993

AB The best inducers for D-aminoacylase from Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) were a poor substrate, N-acetyl-gamma-methyl-D-leucine, and an inhibitor, N-acetyl-D-alloisoleucine. The enzyme has been homogeneously purified. The molecular weight of the native enzyme was estimated to be 58,000 by gel filtration. A subunit molecular weight of 52,000 was measured by SDS-PAGE, indicating that the native protein is a monomer. The isoelectric point was 5.2. The enzyme was specific to the D-isomer and hydrolyzed N-acetyl derivatives of D-leucine, D-phenylalanine, D-norleucine, D-methionine, and D-valine, and also N-formyl, N-butyryl, and N-propionyl derivatives of D-leucine. The Km for N-acetyl-D-leucine was 9.8 mM. The optimum pH and temperature were 7.0 and 50 degrees C, respectively. The stabilities of pH and temperature were 8.1 and 40 degrees C. D-Aminoacylases from three species of the genus Alcaligenes differ in inducer and substrate specificities, but are similar with respect to molecular weight and N-terminal amino acid sequence.

L2 ANSWER 11 OF 79 MEDLINE on STN DUPLICATE 29
ACCESSION NUMBER: 93043743 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1368943
TITLE: Characterization of D-aminoacylase from Alcaligenes denitrificans DA181.
AUTHOR: Yang Y B; Hsiao K M; Li H; Yano H; Tsugita A; Tsai Y C
CORPORATE SOURCE: Institute of Biochemistry, National Yang-Ming Medical College, Taipei, Taiwan, R.O.C.
SOURCE: Bioscience, biotechnology, and biochemistry, (1992 Sep) Vol. 56, No. 9, pp. 1392-5. Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Biotechnology
ENTRY MONTH: 199212
ENTRY DATE: Entered STN: 9 Aug 1995
Last Updated on STN: 3 Feb 1997
Entered Medline: 18 Dec 1992

AB The D-aminoacylase produced by Alcaligenes denitrificans DA181 was a new type of aminoacylase which had both high stereospecificity and specific activity. The molecular weight and isoelectric point of this enzyme were 58,000 and 4.4, respectively. The apparent Km and kcat values of this enzyme for N-acetyl-D-methionine were estimated to be 0.48 mM and 6.24 x 10(4) min-1, respectively. The optimum temperature was 45 degrees C. The enzyme was stable up to 55 degrees C for 1 hr in the presence of 0.2 mg/ml bovine serum albumin. The enzyme

was stable in the pH range of 6.0 to 11.0 with an optimum pH of 7.5. This enzyme contained about 2.1 g atom of zinc per mole of enzyme. Enzyme activity was inhibited by incubation with EDTA. The inhibition by EDTA was fully reversed by Co2+ and partially by Zn2+.

L2 ANSWER 12 OF 79 MEDLINE on STN DUPLICATE 31
ACCESSION NUMBER: 92255939 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1368114
TITLE: Production and immobilization of D-aminoacylase of Alcaligenes faecalis DA1 for optical resolution of N-acyl-DL-amino acids.
AUTHOR: Tsai Y C; Lin C S; Tseng T H; Lee H; Wang Y J
CORPORATE SOURCE: Institute of Biochemistry, National Yang-Ming Medical College, Taipei, Taiwan, Republic of China.
SOURCE: Enzyme and microbial technology, (1992 May) Vol. 14, No. 5, pp. 384-9.
Journal code: 8003761. ISSN: 0141-0229.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Biotechnology
ENTRY MONTH: 199206
ENTRY DATE: Entered STN: 9 Aug 1995
Last Updated on STN: 3 Feb 1997
Entered Medline: 12 Jun 1992

AB The production of D-aminoacylase by Alcaligenes faecalis DA1 was induced 5- to 50-fold by N-acetyl-D-amino acids. This strain produced about 443 units of D-aminoacylase and 52 units of L-aminoacylase per gram of cells (wet weight) when cultivated in a medium containing 1% N-acetyl-DL-leucine as the carbon source. The D-aminoacylase was partially purified by Fractogel DEAE 650 column chromatography and then immobilized on another Fractogel DEAE 650 column. The catalytic activity of the immobilized D-aminoacylase was 2,650 units per milliliter of gel. The Km values for the free and the immobilized enzymes were found to be 1.00 and 0.22 mM, respectively, using N-acetyl-D-methionine as a substrate. The optimal reaction pH and temperature for both soluble and immobilized enzyme were around 8.0 and 45 degrees C, respectively. The free enzyme was stable in the pH range from 5.0 to 11.0, whereas the immobilized enzyme tended to detach from the gel at pH values higher than 9.0. Both forms of enzyme were stable up to 40 degrees C. When used for the optical resolution of N-acetyl-DL-methionine, the immobilized enzyme maintained 90% initial activity after 17 days of continuous operation at 45 degrees C. The process of purification and immobilization of D-aminoacylase described in this report is very effective and easy to scale up.

L2 ANSWER 13 OF 79 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2006) on STN DUPLICATE 18
ACCESSION NUMBER: 1999:43650 AGRICOLA
DOCUMENT NUMBER: IND21987611
TITLE: D-aminoacylase from a novel producer: Stenotrophomonas maltophilia ITV-0595.
AUTHOR(S): Muniz-Lozano, F.E.; Dominguez-Sanchez, G.; Diaz-Viveros, Y.; Barradas-Dermitz, D.M.
AVAILABILITY: DNAL (QR53.J68)
SOURCE: Journal of industrial microbiology & biotechnology, Dec 1998. Vol. 21, No. 6. p. 296-299
ISSN: 1367-5435
NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Other US

LANGUAGE: English
AB A novel bacterial strain producing D-aminoacylase was isolated from organic waste and identified as Stenotrophomonas maltophilia ITV-0595. The isolation was performed using N-acetyl-D-phenylglycine (NAcDPG) as the sole source of C and N. The optimum pH for enzyme expression was 8 at 37 degrees C. Using N-Ac-DPG concentrations from 0.5 up to 3% w/v, it was observed that at the 1% level, the microorganism showed acceptable responses in both enzymeactivities and cell growth. From the different tested compounds N-acetyl-D-methionine (1%) was the best enzyme inducer (Sp. act. = 4.14 U mg(-1) protein, Volume act. = 0.17 U ml(-1)) and the only one that increased cell growth.

L2 ANSWER 14 OF 79 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2006) on STN DUPLICATE 39
ACCESSION NUMBER: 89:28418 AGRICOLA
DOCUMENT NUMBER: IND89000044
TITLE: Production of D-aminoacylase from Alcaligenes denitrificans subsp. xylosoxydans MI-4.
AUTHOR(S): Moriguchi, M.; Ideta, K.
AVAILABILITY: DNAL (448.3 AP5)
SOURCE: Applied and environmental microbiology, Nov 1988. Vol. 54, No. 11. p. 2767-2770
Publisher: Washington, D.C. : American Society for Microbiology.
CODEN: APMBAY; ISSN: 0099-2240
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
AB A bacterial strain that produces D-aminoacylase was isolated from soil and identified as Alcaligenes denitrificans subsp. xylosoxydans MI-4. L-Aminoacylase activity in this strain was only 1 to 2% of D-aminoacylase activity. D-Aminoacylase was inducibly produced. N-Acetyl-DL-leucine was the best inducer, and the D-isomer had the ability to induce the enzyme. Enzymatic resolution of N-acetyl-DL-methionine with the crude enzyme was carried out, and the D/L ratio in the resolved methionine was approximately 100/7, suggesting that resolution with crude enzymes may become possible by removing small amounts of the contaminated L-form with L-amino acid oxidase.

L2 ANSWER 15 OF 79 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2006) on STN DUPLICATE 40
ACCESSION NUMBER: 88:84789 AGRICOLA
DOCUMENT NUMBER: IND88019947
TITLE: Production and purification of D-aminoacylase from Alcaligenes denitrificans and taxonomic study of the strain.
AUTHOR(S): Tsai, Y.C.; Tseng, C.P.; Hsiao, K.M.; Chen, L.Y.
AVAILABILITY: DNAL (448.3 AP5)
SOURCE: Applied and Environmental microbiology, Apr 1988. Vol. 54, No. 4. p. 984-989 ill
Publisher: Washington, D.C. : American Society for Microbiology.
CODEN: APMBAY; ISSN: 0099-2240
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
AB Astract: A D-aminoacylase-producing microoganism, strain DA181, isolated from soil was identified as Alcaligenes

denitrificans subsp. denitrificans. This strain produced about 29,300 units (micromoles of product formed per hour) of D-aminoacylase and 2,300 units of L-aminoacylase per gram of cells (wet weight) when cultivated in a medium containing 1% N-acetyl-DL-leucine as the carbon source. The D-aminoacylase was purified 345-fold. The specific activity of the purified enzyme was 108,600 units per mg of protein when N-acetyl-D-methionine was used as a substrate. The apparent molecular weight was 58,000, as estimated by sodium dodecyl sulfate-polyacrylamide gel electrophoresis. N-Acetyl-D-methionine was the favored substrate, followed by N-acetyl-D-phenylalanine. This enzyme had a high stereospecificity, and its hydrolysis of N-acetyl-L-amino acids was almost negligible.

L2 ANSWER 16 OF 79 JICST-EPlus COPYRIGHT 2006 JST on STN DUPLICATE 21
ACCESSION NUMBER: 950977084 JICST-EPlus
TITLE: Cloning, Expression, and Nucleotide Sequence of the N-Acyl-D-Aspartate Amidohydrolase Gene from Alcaligenes xylosoxydans subsp. xylosoxydans A-6.
AUTHOR: WAKAYAMA M; WATANABE E; TAKENAKA Y; MIYAMOTO Y; TAU Y; SAKAI K; MORIGUCHI M
CORPORATE SOURCE: Oita Univ., Oita, JPN
SOURCE: J Ferment Bioeng, (1995) vol. 80, no. 4, pp. 311-317. Journal Code: G0535B (Fig. 7, Tbl. 1, Ref. 38)
CODEN: JFBIEX; ISSN: 0922-338X
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
STATUS: New
AB The gene (termed daa) encoding N-acyl-D-aspartate (D-Asp) amidohydrolase (D-AAase) from the Alcaligenes xylosoxydans subsp. xylosoxydans (Alcaligenes A-6) was cloned in Escherichia coli (E. coli) JM109. The daa gene consists of 1,494 nucleotides and encodes 498 amino acid residues. The molecular weight of D-AAase was calculated to be 53,581. The N-terminal amino acid sequence (NH2-TDRSTLDDAP-) predicted by the nucleotide sequence matched exactly those of the purified D-AAase from both Alcaligenes A-6 and cloned E. coli, with the exception of the removal of the N-terminal methionine processed after translation. A comparison of the amino acid sequence of D-AAase with that of D-aminoacylase from Alcaligenes A-6 showed high overall homology (56%). D-AAase from Alcaligenes A-6 showed 25-29% homology with Bacillus stearothennophilus, porcine, and human L-aminoacylases. The daa was highly expressed in E. coli, and the recombinant enzyme was purified to homogeneity with 17.8% yield. (author abst.)

L2 ANSWER 17 OF 79 JICST-EPlus COPYRIGHT 2006 JST on STN DUPLICATE 25
ACCESSION NUMBER: 940205568 JICST-EPlus
TITLE: A Novel Enzyme, N-Acylamino Acid Racemase, in Actinomycetes. Part I. Discovery of a Novel Enzyme, N-Acylamino Acid Racemase in an Actinomycete: Screening, Isolation, and Identification.
AUTHOR: TOKUYAMA S; HATANO K; TAKAHASHI T
CORPORATE SOURCE: Takeda Chemical Industries, Ltd., Osaka, JPN
SOURCE: Biosci Biotechnol Biochem, (1994) vol. 58, no. 1, pp. 24-27. Journal Code: G0021A (Fig. 1, Tbl. 3, Ref. 18)
CODEN: BBBIEJ; ISSN: 0916-8451
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
STATUS: New
AB A novel enzyme, N-acylamino acid racemase (acylamino acid racemase) which catalyzes the interconversion of the enantiomers of N-acylamino acid, but does not act on amino acids, was found in an actinomycete strain Y-53 isolated from soil. A taxonomic study on the strain identified Y-53 as a strain of Streptomyces atratus. This strain also produced L- and D-aminoacylases simultaneously. Furthermore, another 13 strains

of actinomycetes with the enzyme activity from the type culture collection of the Institute for Fermentation, Osaka (IFO) were observed. (author abst.)

L2 ANSWER 18 OF 79 JICST-EPlus COPYRIGHT 2006 JST on STN DUPLICATE 34
ACCESSION NUMBER: 910286401 JICST-EPlus
TITLE: Purification and properties of D-aminoacylase from Alcaligenes denitrificans subsp. xylosoxydans MI-4.
AUTHOR: SAKAI K; OBATA T; IDETA K; MORIGUCHI M
CORPORATE SOURCE: Oita Univ., Oita, JPN
SOURCE: J Ferment Bioeng, (1991) vol. 71, no. 2, pp. 79-82. Journal Code: G0535B (Fig. 2, Tbl. 3, Ref. 14)
CODEN: JFBIEX; ISSN: 0922-338X
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
STATUS: New
AB D-Aminoacylase has been purified 144-fold to electrophoretic homogeneity by ammonium sulfate fractionation, DEAE-Toyopearl and affinity column chromatographies, and Sephadex G-100 gel filtration from the crude extracts of Alcaligenes denitrificans subsp. xylosoxydans MI-4. The enzyme was composed of a single polypeptide of about 51,000. The enzyme catalyzed hydrolysis of N-acyl-derivatives of neutral D-amino acids. Optimal pH and temperature were 7.8 and 50.DEG.C.. The apparent Km and the Vmax for N-acetyl-d-phenylalanine were 14.1mM and 1331 units/mg protein, respectively. The activity of the enzyme was inhibited by N-acetyl-d-valine (Ki=2.15mM) and N-acetyl-d-alloisoleucine (Ki=1.47mM),but not by its products (i.e., amino acids and acetate). The enzyme also had dipeptidase activity. Activation by metal ions was not observed. (author abst.)

L2 ANSWER 19 OF 79 JICST-EPlus COPYRIGHT 2006 JST on STN DUPLICATE 37
ACCESSION NUMBER: 890565243 JICST-EPlus
TITLE: A novel inducer, Γ-methyl-D-leucine, of D-aminoacylase from Alcaligenes denitrificans subsp. xylosoxydans MI-4.
AUTHOR: SAKAI K; OBATA T; TAKANO S; MORIGUCHI M
CORPORATE SOURCE: Oita Univ., Oita, JPN
SOURCE: Agric Biol Chem, (1989) vol. 53, no. 8, pp. 2285-2286. Journal Code: G0021A (Fig. 1, Tbl. 2, Ref. 7)
CODEN: ABCHA6; ISSN: 0002-1369
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Short Communication
LANGUAGE: English
STATUS: New

L2 ANSWER 20 OF 79 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN DUPLICATE
ACCESSION NUMBER: 2001:32143704 BIOTECHNO
TITLE: Comparative biochemistry of bacterial N-acyl-D-amino acid amidohydrolase
AUTHOR: Wakayama M.; Moriguchi M.
CORPORATE SOURCE: M. Moriguchi, Department of Applied Chemistry, Faculty of Engineering, Oita University, Oita 870-1192, Japan. E-mail: mmorigu@cc.oita-u.ac.jp
SOURCE: Journal of Molecular Catalysis - B Enzymatic, (28 FEB 2001), 12/1-6 (15-25), 78 reference(s)
CODEN: JMCEF8 ISSN: 1381-1177
PUBLISHER ITEM IDENT.: S1381117700001995
DOCUMENT TYPE: Journal; General Review
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32143704 BIOTECHNO

AB N-acyl-D-amino acid amidohydrolases can be classified into three types based on substrate specificity. D-aminoacylase has been reported to occur in a very few bacteria such as Pseudomonas, Streptomyces, and Alcaligenes. N-acyl-D-aspartate amidohydrolase (D-AAase) has been reported in only Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) while N-acyl-D-glutamate amidohydrolase (D-AGase) has been isolated in two stains of Pseudomonas sp. 5f-1 and Alcaligenes A-6. The physiological roles of these enzymes in these microbes are not clear. They are individually characteristic in their substrate specificities, inducer profiles, inhibitors, isoelectric points, metal dependency, and some physicochemical properties. The primary structures of all the three types of N-acyl-D-amino acid amidohydrolases from Alcaligenes A-6 were determined from their nucleotide sequences. Comparison of their primary structures revealed high homology (46-56%) between the different enzymes. The three enzymes showed 26-27% sequence homology with L-aminoacylases from Bacillus stearothermophilus, porcine, and human. Chemical modification and site-directed mutagenesis identified the histidyl residues essential for catalysis. The Alcaligenes N-acyl-D-amino acid amidohydrolases share significant sequence similarities with some members of the urease-related amidohydrolase superfamily proposed by Holm and Sander [L. Holm, C. Sander, Proteins: Structure, Function and Genetics 28 (1997) 72]. Copyright .COPYRGT. 2001 Elsevier Science B.V.

L2 ANSWER 21 OF 79 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE

ACCESSION NUMBER: 2001:32143703 BIOTECHNO
TITLE: Discovery and application of a new enzyme N-acylamino acid racemase
AUTHOR: Tokuyama S.
CORPORATE SOURCE: S. Tokuyama, Dept. Applied Biological Chemistry, Faculty of Agriculture, Shizuoka University, 836 Ohya, Shizuoka 422-8529, Japan.
E-mail: acstokul@agr.shizuoka.ac.jp
SOURCE: Journal of Molecular Catalysis - B Enzymatic, (28 FEB 2001), 12/1-6 (3-14), 55 reference(s)
CODEN: JMCEF8 ISSN: 1381-1177
PUBLISHER ITEM IDENT.: S1381117700001983
DOCUMENT TYPE: Journal; General Review
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32143703 BIOTECHNO
AB A novel enzyme, N-acylamino acid racemase (NAAR) which catalyzes the interconversion of the enantiomers of N-acylamino acid, but does not act on amino acids, has been found in the actinomycetes Streptomyces atratus Y-53 and Amycolatopsis sp. TS-1-60, isolated from soil. These strains also produced L- and D-aminoacylases simultaneously. Furthermore, another 13 strains of actinomycetes with NAAR activity were observed from the type culture collection of the Institute for Fermentation, Osaka (IFO).Thermostable N-acylamino acid racemase from Amycolatopsis sp. TS-1-60, a rare actinomycete strain selected for its ability to grow on agar plates incubated at 40°C, was purified to homogeneity and characterized. The enzyme was stable at 55°C for 30min and catalyzed the racemization of optically active N-acylamino acids such as N-acetyl D- or L-methionine, N-acetyl-L-valine, N-acetyl-L-tyrosine and N-chloroacetyl-L-valine. In addition, this enzyme also catalyzed the racemization of the dipeptide L-alanyl-L-methionine. The optically active amino acids, N-alkyl-amino acids and ethyl ester derivatives of N-acetyl-D and L-methionine, however, were not racemized. Enzyme activity was markedly enhanced by the addition of divalent metal ions such as Co.sup.2.sup.+, Mn.sup.2.sup.+ and Fe.sup.2.sup.+ and was inhibited by the addition of EDTA and PCMB.The NAAR gene from Amycolatopsis sp. TS-1-60, consists of an open reading frame of 1104 nucleotides, which specifies a 368-amino acid protein with a molecular

weight of 39,411. No significant sequence homology was found between the DNA sequence or the deduced amino acid sequence of NAAR and those of known racemases and epimerases in data bases. However, comparison of the amino acid sequences of mandelate racemase and NAAR showed that NAAR has partial homology with the catalytic and metal ion binding sites of that enzyme. The amount of NAAR produced by an E. coli transformant hosting a T7 expression plasmid was 1100-fold more than that produced by Amycolatopsis sp. TS-1-60.Bioreactors for the production of optically active amino acids were constructed with DEAE Toyopearl-immobilized NAAR and D- or L-aminoacylase. D- or L-Methionine was continuously produced with a high yield from N-acetyl DL-methionine by these bioreactors. Copyright .COPYRGT. 2001 Elsevier Science B.V.

L2 ANSWER 22 OF 79 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2000:30463518 BIOTECHNO
TITLE: Microbial production of D-amino acids
AUTHOR: Tripathi C.K.M.; Bihari V.; Tyagi R.D.
CORPORATE SOURCE: C.K.M. Tripathi, Universite du Quebec, I.N.R.S.-Eau, 2700 rue Einstein, Sainte-Foy, Que. G1V 4C7, Canada. E-mail: tyagi@inrs-eau.uquebec.ca
SOURCE: Process Biochemistry, (2000), 35/10 (1247-1251), 18 reference(s)
CODEN: PBCHE5 ISSN: 0032-9592
PUBLISHER ITEM IDENT.: S0032959200001709
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30463518 BIOTECHNO
AB The production of D-aminoacylase by Alcaligenes denitrificans and Alcaligenes faecalis has been studied. The enzyme was inducibly produced and N-acetyl-D-leucine and N- acetyl-D-valine were the most effective inducers. D-methionine, D-valine, D-phenylalamine and D-leucine were produced by the enzymic hydrolysis of the appropriate N-acetyl-D-amino-acids with whole cell biomass. The hydrolysis of N-acetyl-D-methionine by A. denitrificans and N-acetyl-D-valine by A. faecalis was preferential. Maximum yields of D-methionine and D-valine were 94.3 and 84.7% at a specific product formation rate of 20.10 and 19.19 gmol min.sup.-.sup.1 mg.sup.-.sup.1 of wet cells at 20 mM substrate concentration and 5 mg ml.sup.-.sup.1 of cell density. (C) 2000 Elsevier Science Ltd.

L2 ANSWER 23 OF 79 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1994:24370536 BIOTECHNO
TITLE: Isolation and selection of an L-aminoacylase-producing bacterium, Pseudomonas sp. BA2
AUTHOR: Bodalo Santoyo A.; Bastida Rodriquez J.; Marin Ineista F.; Gomez Gomez E.; Asanza Teruel M.L.; Alcaraz Rojo I.
CORPORATE SOURCE: Dpto. Ingenieria Quimica, Facultad de Quimica, Universidad de Murcia, Campus de Espinardo,30071 Murcia, Spain.
SOURCE: Letters in Applied Microbiology, (1994), 19/6 (461-465)
CODEN: LAMIE7 ISSN: 0266-8254
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1994:24370536 BIOTECHNO
AB The enrichment culture method was used to detect and isolate L-aminoacylase-producing bacteria from soil, using N-acetyl-L-alanine as inducer and substrate. Isolated bacterial strains were screened for

growth and enzyme activity. Strain BA2 displayed both the highest intracellular L-aminoacylase activity and the most profuse growth. Furthermore, BA2 cells did not show any D-aminoacylase activity. This strain was an obligately aerobic rod-shaped bacterium and stained Gram-negative, and was therefore identified as Pseudomonas. Its morphological and biochemical characteristics corresponded to those of Pseudomonas fluorescens biovar I.

L2 ANSWER 24 OF 79 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1991:21146193 BIOTECHNO
TITLE: Purification and characterization of D-aminoacylase from Alcaligenes faecalis DA1
AUTHOR: Yang Y.-B.; Lin C.-S.; Tseng C.-P.; Wang Y.-J.; Tsai Y.-C.
CORPORATE SOURCE: Institute of Biochemistry, National Yang-Ming Med. Coll.,Taipei 11221, Taiwan.
SOURCE: Applied and Environmental Microbiology, (1991), 57/4 (1259-1260)
CODEN: AEMIDF ISSN: 0099-2240
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1991:21146193 BIOTECHNO
AB A D-aminoacylase from Alcaligenes faecalis DA1 has been purified to homogeneity by a simple purification procedure with two columns, Fractogel DEAE-650 and HW-50. The specific activity of the purified enzyme was found to be 580 U/mg of protein with N-acetyl-DL-methionine as the reaction substrate. The apparent molecular weight and isoelectric point of this enzyme were determined to be 55,000 and 5.4, respectively.

L2 ANSWER 25 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 3
ACCESSION NUMBER: 2002:626099 BIOSIS
DOCUMENT NUMBER: PREV200200626099
TITLE: Convenient synthesis of 7' and 6'-bromo-D-tryptophan and their derivatives by enzymatic optical resolution using D-aminoacylase.
AUTHOR(S): Konda-Yamada, Yaeko [Reprint author]; Okada, Chiharu; Yoshida, Kiminari; Umeda, Yasuyuki; Arima, Shiho; Sato, Noriko; Kai, Toshitsugu; Takayanagi, Hiroaki; Harigaya, Yoshihiro
CORPORATE SOURCE: School of Pharmaceutical Sciences, Kitasato University, 9-1 Shirokane 5 chome, Minato-ku, Tokyo, 108-8641, Japan, Japan konday@pharm.kitasato-u.ac.jp
SOURCE: Tetrahedron, (23 September 2002 2002) Vol. 58, No. 39, pp. 7851-7861. print.
CODEN: TETRAB. ISSN: 0040-4020.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 12 Dec 2002
Last Updated on STN: 12 Dec 2002
AB Compounds 7' and 6'-bromo-D-tryptophan (1 and 2) which are important derivatives for the synthesis of the chloropeptin and kistamycin A, respectively, were conveniently synthesized by optical resolution from N-acetyl-7' and 6'-bromo-DL-tryptophan ((RS)-5 and (RS)-14) using D-aminoacylase.

L2 ANSWER 26 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 30
ACCESSION NUMBER: 1992:428964 BIOSIS
DOCUMENT NUMBER: PREV199294081089; BA94:81089
TITLE: ENANTIOSELECTIVE DEPROTECTION OF N-PROTECTED AMINO ACIDS BY

D AMINOACYLASE.
AUTHOR(S): CHEN H-P [Reprint author]; WU S-H; TSAI Y-C; YANG Y-B; WANG K-T
CORPORATE SOURCE: GRADUATE INST BIOCHEM SCI, NATL TAIWAN UNIV, TAIWAN
SOURCE: Bioorganic and Medicinal Chemistry Letters, (1992) Vol. 2, No. 7, pp. 697-700.
CODEN: BMCLE8. ISSN: 0960-894X.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 22 Sep 1992
Last Updated on STN: 10 Nov 1992
AB D-Aminoacylase isolated from Alcaligenes faecalis DA1 could enantioselectively deprotect racemic N-protected [such as benzoyl (Bz-) and benzyloxycarbonyl (Z-) groups] amino acids to produce free D-amino acids. The active site of the enzyme are roughly described.

L2 ANSWER 27 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 38
ACCESSION NUMBER: 1989:398667 BIOSIS
DOCUMENT NUMBER: PREV198937065315; BR37:65315
TITLE: CHARACTERIZATION AND GENE CLONING OF D AMINOACYLASE FROM ALCALIGENES-DENITRIFICANS.
AUTHOR(S): TSAI Y C [Reprint author]; YANG Y B; LI H; HSIAO K M; TSENG C P
CORPORATE SOURCE: NATL YANG-MING MED COLL, TAIPEI, TAIWAN
SOURCE: Abstracts of the Annual Meeting of the American Society for Microbiology, (1989) Vol. 89, pp. 277.
Meeting Info.: 89TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, NEW ORLEANS, LOUISIANA, USA, MAY 14-18, 1989. ABSTR ANNU MEET AM SOC MICROBIOL.
CODEN: ASMACK. ISSN: 0094-8519.
DOCUMENT TYPE: Conference; (Meeting)
FILE SEGMENT: BR
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 22 Aug 1989
Last Updated on STN: 23 Sep 1989

L2 ANSWER 28 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 43
ACCESSION NUMBER: 1980:285396 BIOSIS
DOCUMENT NUMBER: PREV198070077892; BA70:77892
TITLE: OPTICAL RESOLUTION OF D L AMINO-ACIDS WITH D AMINO ACYLASE OF STREPTOMYCES.
AUTHOR(S): SUGIE M [Reprint author]; SUZUKI H
CORPORATE SOURCE: FERMENT RES INST, YATABE-HIGASHI, TSUKUBA, IBARAKI, JPN
SOURCE: Agricultural and Biological Chemistry, (1980) Vol. 44, No. 5, pp. 1089-1096.
CODEN: ABCHA6. ISSN: 0002-1369.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB D-Aminoacylase was produced not only by S. olivaceus 62-3 isolated from soil but also by 3 strains of type culture of Streptomyces sp. All 4 of these strains produced D-aminoacylase intracellularly only when an inducer was added to the culture medium. D-Amino acids or N-acetyl-D-amino acids were effective as inducers. As S. tuirus showed the highest D-aminoacylase activity, the enzyme extract of this strain was subjected to further investigation to determined the optimal conditions for optical resolution of N-acetyl-DL-phenylglycine. Almost all contaminating L-aminoacylase in the enzyme extract could be eliminated by DEAE-Sephadex adsorption. D-Phenylglycine of 99.9% optical purity was obtained after complete hydrolysis of D-isomer with the use of D-aminoacylase solution.

L2 ANSWER 29 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 44

ACCESSION NUMBER: 1981:174829 BIOSIS
DOCUMENT NUMBER: PREV198171044821; BA71:44821
TITLE: IDENTIFICATION AND CULTURE CONDITIONS OF STRAIN S-62-3 D AMINO ACYLASE PRODUCING ACTINOMYCETES.
AUTHOR(S): SUGIE M; SUZUKI H
SOURCE: Report of the Fermentation Research Institute (Yatabe), (1980) No. 54, pp. 29-34.
CODEN: KGBKBK. ISSN: 0368-5365.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB The D-aminoacylase-producing strain S 62-3 isolated from soil was identified as Streptomyces olivaceus 62-3. The optimal culture condtions for the production of D-aminoacylase of S 62-3 were studied, and almost all D-aminoacylase activity was produced in the cell fraction. The maximum activity of the enzyme, about 60-67 u/cells harvested from 1 ml of broth, was obtained, when the strain was cultured at 30° C for 3-4 days in a medium containing 6.0% of soluble starch, 0.1% of polypeptone, 3.0% of meat extract, 1.0% of yeast extract, 0.3% of NaCl, 0.2% of K2HPO4. 0.1% of MgSO4, 0.0001% of FeSO4, 0.0002% of ZnSO4, and 2.0% of DL-valine as an inducer, at pH 7.0.

L2 ANSWER 30 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 45

ACCESSION NUMBER: 1978:204243 BIOSIS
DOCUMENT NUMBER: PREV197866016740; BA66:16740
TITLE: PURIFICATION AND PROPERTIES OF D AMINO ACYLASE OF STREPTOMYCES-OLIVACEUS/.
AUTHOR(S): SUGIE M [Reprint author]; SUZUKI H
CORPORATE SOURCE: FERMENT RES INST, INAGE, CHIBA, CHIBA, JPN
SOURCE: Agricultural and Biological Chemistry, (1978) Vol. 42, No. 1, pp. 107-114.
CODEN: ABCHA6. ISSN: 0002-1369.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB D-Aminoacylase for enzymatic resolution of DL-amino acids was produced in the presence of inducer by S. olivaceus and almost all the activity was found in cell fraction. The partial purification and properties of this induced enzyme were studied. The enzyme had a MW of about 45,000 and was specific for the hydrolysis of N-acetyl D-amino acids. The optimum pH was at pH 7.0 and the activity was remarkably inhibited by the presence of Hg2+ or Ag2+. Enzyme stability was increased by the addition of Co2+. Km for several preferred substrates were between 1.13 + 10-3- and 2.95 + 10-3 M.

L2 ANSWER 31 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:387151 BIOSIS
DOCUMENT NUMBER: PREV200000387151
TITLE: D-aminoacylase.
AUTHOR(S): Tokuyama, Shinji [Inventor, Reprint author]
CORPORATE SOURCE: Shizuoka, Japan
ASSIGNEE: Daicel Chemical Industries, Ltd., Osaka, Japan
PATENT INFORMATION: US 6030823 20000229
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Feb. 29, 2000) Vol. 1231, No. 5. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

ENTRY DATE: Entered STN: 13 Sep 2000
Last Updated on STN: 8 Jan 2002

AB A novel D-aminoacylase was derived from a microorganism belonging to the genus Sebekia. This enzyme is useful for producing D-amino acids from N-acetyl-DL-amino acids on an industrial scale.

L2 ANSWER 32 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1999:415811 BIOSIS
DOCUMENT NUMBER: PREV199900415811
TITLE: D-aminoacylase.
AUTHOR(S): Tokuyama, Shinji [Inventor, Reprint author]
CORPORATE SOURCE: Natl. Inst. Genet., Shizuoka, Japan
ASSIGNEE: Daicel Chemical Industries, Ltd.
PATENT INFORMATION: US 5916774 19990629
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Jun. 29, 1999) Vol. 1223, No. 5. print.
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 18 Oct 1999
Last Updated on STN: 18 Oct 1999

L2 ANSWER 33 OF 79 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1982:222511 BIOSIS
DOCUMENT NUMBER: PREV198273082495; BA73:82495
TITLE: OPTICAL RESOLUTION OF DL AMINO-ACIDS WITH D AMINO ACYLASE OF STREPTOMYCES.
AUTHOR(S): SUGIE M; SUZUKI H
SOURCE: Report of the Fermentation Research Institute (Yatabe), (1981) No. 56, pp. 1-10.
CODEN: KGBKBK. ISSN: 0368-5365.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB D-Aminoacylase was produced by S. olivaceus 62-3 isolated from soil and by 3 strains of type culture of Streptomyces sp. All 4 of these strains produced D-aminoacylase intracellularly only when an inducer was added to the culture medium. D-Amino acids or N-acetyl-D-amino acids were effective as inducers. As S. tuirus showed the highest D-aminoacylase activity, the enzyme extract of this strain was subjected to further investigation to determine the optimal conditions for optical resolution of N-acetyl-DL-phenylglycine. Almost all contaminating L-aminoacylase in the enzyme extract could be eliminated by DEAE-Sephadex adsorption. D-Phenylglycine of 99.9% optical purity was obtained after complete hydrolysis of D-isomer with the use of D-aminoacylase solution.

L2 ANSWER 34 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2002:595002 CAPLUS
DOCUMENT NUMBER: 137:151796
TITLE: Preparation of Methylobacterium and Nocardioides D-aminoacylase the use of the enzyme for D-amino acid biosynthesis
INVENTOR(S): Osabe, Masami; Takahashi, Katsuyuki; Yamaki, Toshifumi; Arii, Teruo; Oikawa, Toshihiro
PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002061077	A1	20020808	WO 2002-JP853	20020201 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2002320491	A2	20021105	JP 2002-26052	20020201 <--
JP 3765758	B2	20060412		
EP 1365023	A1	20031126	EP 2002-710475	20020201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003207436	A1	20031106	US 2002-240422	20020930
US 6869788	B2	20050322		

PRIORITY APPLN. INFO.: JP 2001-24986 A 20010201
WO 2002-JP853 W 20020201

OTHER SOURCE(S): CASREACT 137:151796

AB The invention provides a process of preparation of D-aminoacylase from Methylobacterium mesophilicum and Nocardioides thermolilacinus. The DNA and protein sequences of Methylobacterium D-aminoacylase were disclosed. The enzymes can be used for biosynthesis of D-amino acid from N-acyl-D-amino acids.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 35 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2002:104706 CAPLUS
DOCUMENT NUMBER: 136:130772
TITLE: Purification and characterization of a heat-stable D-aminoacylase from Streptomyces thermonitrificans CS5-9 and its use in industrial production of D-amino acids
INVENTOR(S): Tokuyama, Shinji; Matsuyama, Akinobu
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1178114	A2	20020206	EP 2001-118631	20010802 <--
EP 1178114	A3	20020313		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002045179	A2	20020212	JP 2000-234470	20000802 <--
US 2002090713	A1	20020711	US 2001-921156	20010802 <--
US 6596528	B2	20030722		
US 2003157665	A1	20030821	US 2003-361509	20030207
US 6902915	B2	20050607		
US 2003203455	A1	20031030	US 2003-361526	20030207

PRIORITY APPLN. INFO.: JP 2000-234470 A 20000802
US 2001-921156 A3 20010802

AB The present invention provides a novel D-aminoacylase, as well as method for producing a D-amino acid using the same. In order

to achieve the above objective , the present inventors have succeeded in purifying heat-stable D-aminoacylase from microorganisms belonging to the genus Streptomyces by combining various purification methods. Furthermore, the present inventors found that the purified heat-stable D-aminoacylase from Streptomyces thermonitrificans CS5-9 is useful in industrial production of D-amino acids. By utilizing the heat-stable D-aminoacylase, it is possible to readily and efficiently produce the corresponding D-amino acids from N-acetyl-DL-amino acids (for example, N-acetyl-DL-methionine, N-acetyl-DL-valine, N-acetyl-DL-tryptophan, N-acetyl-DL-phenylalanine, N-acetyl-DL-alanine, N-acetyl-DL-leucine, and so on).

L2 ANSWER 36 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 2002:795444 CAPLUS
DOCUMENT NUMBER: 138:101787
TITLE: Identification and characterization of a new gene from Variovorax paradoxus Iso1 encoding N-acyl-D-amino acid amidohydrolase responsible for D-amino acid production
AUTHOR(S): Lin, Pei-Hsun; Su, Shiun-Cheng; Tsai, Ying-Chieh; Lee, Chia-Yin
CORPORATE SOURCE: Graduate Institute of Agricultural Chemistry, National Taiwan University, Taipei, 106, Taiwan
SOURCE: European Journal of Biochemistry (2002), 269(19), 4868-4878
CODEN: EJBCAI; ISSN: 0014-2956
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An N-acyl-D-amino acid amidohydrolase (N-D-AAase) was identified in cell exts. of a strain, Iso1, isolated from an environment containing N-acetyl-D-methionine. The bacterium was classified as Variovorax paradoxus by phylogenetic anal. The gene was cloned and sequenced. The gene consisted of a 1467-bp ORF encoding a polypeptide of 488 amino acids. The V. paradoxus N-D-AAase showed significant amino acid similarity to the N-acyl-D-amino acid amidohydrolases of the two eubacteria Alcaligenes xylosoxydans A-6 (44-56% identity), Alcaligenes facelis DA1 (54% identity) and the hyperthermophilic archaeon Pyrococcus abyssi (42% identity). After over-expression of the N-D-AAase protein in Escherichia coli, the enzyme was purified by multistep chromatog. The native mol. mass was 52.8 kDa, which agreed with the predicted mol. mass of 52 798 Da and the enzyme appeared to be a monomer protein by gel-filtration chromatog. A homogeneous protein with a specific activity of 516 U·mg-1 was finally obtained. After peptide sequencing by LC/MS/MS, the results were in agreement with the deduced amino acid sequence of the N-D-AAase. The pI of the enzyme was 5.12 and it had an optimal pH and temperature of 7.5 and 50°C, resp. After 30 min heat treatment at 45°C, between pH 6 and pH 8, 80% activity remained. The N-D-AAase had higher hydrolyzing activity against N-acetyl-D-amino acid derivates containing D-methionine, D-leucine and D-alanine and against N-chloroacetyl-D-phenylalanine. Importantly, the enzyme does not act on the N-acetyl-L-amino acid derivs. The enzyme was inhibited by chelating agents and certain metal ions, but was activated by 1 mM of Co2+ and Mg2+. Thus, the N-D-AAase from V. paradoxus can be considered a chiral specific and metal-dependent enzyme.
REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 37 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7
ACCESSION NUMBER: 2001:563783 CAPLUS
DOCUMENT NUMBER: 135:149149
TITLE: Protein and cDNA sequences of Hypomyces mycophilus D-aminoacylase and their uses for producing D-amino acids
INVENTOR(S): Mitsuhashi, Kazuya; Yamamoto, Hiroaki; Matsuyama, Akinobu; Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1120465	A1	20010801	EP 2001-101739	20010125 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001275688	A2	20011009	JP 2000-150578	20000522 <--
US 2002151035	A1	20021017	US 2001-770517	20010126 <--
US 6780619	B2	20040824		
US 2004166564	A1	20040826	US 2003-750026	20031231
US 6887697	B2	20050503		

PRIORITY APPLN. INFO.:
JP 2000-19080 A 20000127
JP 2000-150578 A 20000522
US 2001-770517 A3 20010126

OTHER SOURCE(S): MARPAT 135:149149

AB The present invention provides protein and cDNA sequences of D-aminoacylase-encoding gene derived from Hypomyces mycophilus, a filamentous fungus. The D-aminoacylase of the present invention is capable of producing D-tryptophan from N-acetyl-D-tryptophan. The enzyme acts on N-acetyl-D-tryptophan, N-acetyl-D-phenylalanine, N-acetyl-D-valine, N-acetyl-D-leucine, and N-acetyl-D-methionine, but not on N-acetyl-L-tryptophan, N-acetyl-L-phenylalanine, N-acetyl-L-valine, N-acetyl-L-leucine, or N-acetyl-L-methionine. D-tryptophan is useful as a medicinal raw material or the like.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 38 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 11
ACCESSION NUMBER: 2000:911397 CAPLUS
DOCUMENT NUMBER: 134:53142
TITLE: Alcaligenes xylosoxydans D-aminoacylase gene expression in Escherichia coli and activation by zinc ion
INVENTOR(S): Takeuchi, Ken-ichi; Koide, Yoshinao; Hirose, Yoshihiko; Moriguchi, Mitsuaki; Isobe, Kimiyasu
PATENT ASSIGNEE(S): Amano Enzyme Inc., Japan
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078926	A1	20001228	WO 2000-JP3932	20000615 <--
W: CN, IN, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2001000185	A2	20010109	JP 1999-170555	19990617 <--
EP 1188823	A1	20020320	EP 2000-937269	20000615 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1514876	A	20040721	CN 2000-811610	20000615
US 6943004	B1	20050913	US 2002-9782	20020325

PRIORITY APPLN. INFO.:
JP 1999-170555 A 19990617
WO 2000-JP3932 W 20000615

AB A zinc-tolerant microorganism which selectively produces D-aminoacylase but no L-aminoacylase, transformed with a D

-aminoacylase gene; and a method of D-aminoacylase production which comprises culturing the above transformed microorganism in a medium containing zinc ion and obtaining D-aminoacylase from the culture medium at a high efficiency, are disclosed. The gene encoding the D-aminoacylase of Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) was cloned and its complete nucleotide sequence was identified. The D-aminoacylase structural gene consists of 1452 nucleotides and encodes 484 amino acid residues. The mol. weight of D-aminoacylase was calculated to be 51,918. This value agreed well with the apparent mol. weight of 52,000 found for the purified enzyme from Alcaligenes A-6 by sodium dodecyl sulfate (SDS)-polyacrylamide gel electrophoresis (PAGE). The gene was expressed in Escherichia coli,. In the presence of zinc ion between certain concentration levels, increase in enzyme activity was observed

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 39 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 12

ACCESSION NUMBER: 2000:84445 CAPLUS
DOCUMENT NUMBER: 132:104690
TITLE: Fungal D-aminoacylases and method for producing D-amino acids
INVENTOR(S): Mitsuhashi, Kazuya; Yamamoto, Hiroaki; Matsuyama, Akinobu; Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 976828	A1	20000202	EP 1999-114877	19990729 <--
EP 976828	B1	20041201		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000041684	A2	20000215	JP 1998-228636	19980729 <--
US 6514742	B1	20030204	US 1999-361901	19990727
US 2003113893	A1	20030619	US 2002-242378	20020910
US 6905861	B2	20050614		
US 2003170869	A1	20030911	US 2003-348455	20030117
PRIORITY APPLN. INFO.:			JP 1998-228636 A	19980729
			US 1999-361901 A1	19990727

OTHER SOURCE(S): MARPAT 132:104690

AB D-Aminoacylase derived from fungi is provided. The fungi capable of producing D-aminoacylase include those belonging to the genus Hypomyces, Fusarium, Pythium, and Menisporopsis. D-Aminoacylase was purified from Hypomyces mycophilus ATCC 76474 by ammonium sulfate salting-out, DEAE-Sepharose FF 5.0/25 amino-exchange chromatog., Phenyl-Sepharose HP 2.6/10 hydrophobic chromatog., Superdex 200 Hi-Load 1.6/60 gel filtration, MonoQ HR 5/5 anion-exchange chromatog. and SDS-PAGE. The enzyme has an apparent mol. weight of about 56,000 Da by SDS-PAGE and about 56,000 Da by gel filtration, is thermostable when heated at pH 9.5 for 30 min at 45°, and is stabilized by reducing agents and ICH2CONH2. Peptide fragment sequences are also provided for the H. mycophilus enzyme. The enzyme acts on N-acetyl-D-tryptophan, N-acetyl-D-phenylalanine, N-acetyl-D-valine, N-acetyl-D-leucine, and N-acetyl-D-methionine, but not on N-acetyl-L-tryptophan, N-acetyl-L-phenylalanine, N-acetyl-L-valine, N-acetyl-L-leucine, or N-acetyl-L-methionine. The fungal D-aminoacylase is useful for efficiently producing D-amino acids

from N-acetyl-D-amino acids.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 40 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 16
ACCESSION NUMBER: 1999:672419 CAPLUS
DOCUMENT NUMBER: 131:283325
TITLE: Purification and characterization of D-aminoacylase from Sebekia and its application to production of D-amino acids
INVENTOR(S): Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 950706	A2	19991020	EP 1999-104069	19990317 <--
EP 950706	A3	19991215		
EP 950706	B1	20030305		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11318442	A2	19991124	JP 1999-35620	19990215 <--
US 6030823	A	20000229	US 1999-268941	19990316 <--

PRIORITY APPLN. INFO.: JP 1998-89246 A 19980317
JP 1999-35620 A 19990215

AB A novel D-aminoacylase was purified from a microorganism belonging to the genus Sebekia. Physicochem. and enzymic properties of the enzyme are reported. This enzyme is useful for producing D-amino acids from N-acetyl-DL-amino acids on an industrial scale.

L2 ANSWER 41 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 17
ACCESSION NUMBER: 1999:111780 CAPLUS
DOCUMENT NUMBER: 130:164902
TITLE: A novel D-aminoacylase and its application to production of D-amino acids
INVENTOR(S): Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 896057	A2	19990210	EP 1998-114122	19980728 <--
EP 896057	A3	20000628		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11098982	A2	19990413	JP 1998-141932	19980522 <--
US 5916774	A	19990629	US 1998-122386	19980724 <--

PRIORITY APPLN. INFO.: JP 1997-206288 A 19970731
JP 1998-141932 A 19980522

AB This invention provides a novel D-aminoacylase and a method for producing the enzyme, and also a method for producing D-amino acids using the aminoacylase. The D-aminoacylase of the invention having novel properties can be derived from microorganisms belonging to the genus Amycolatopsis. The use of the enzyme enables

industrial production of D-amino acids.

L2 ANSWER 42 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 23
ACCESSION NUMBER: 1994:429914 CAPLUS
DOCUMENT NUMBER: 121:29914
TITLE: α-hydroxycayboxylic acids as inhibitors to aminoacylase
INVENTOR(S): Inagaki, Kenji; Tano, Tatsuo; Tanaka, Hidehiko; Soda, Kenji
PATENT ASSIGNEE(S): Biseiken Jugen, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06098783	A2	19940412	JP 1992-277796	19920922 <--
PRIORITY APPLN. INFO.:			JP 1992-277796	19920922

AB α-Hydroxycayboxylic acids HC(OH)(CO2H)(CH2)nX (X=H or phenyl; n=1-4) are inhibitors to aminoacylase (I). The inhibition of I by these α-hydroxycayboxylic acids is not antagonistic, and is stereospecific, i.e. D-α-hydroxycayboxylic acids inhibit D -aminoacylase. The α-hydroxycayboxylic acids are useful in manufacturing amino acids.

L2 ANSWER 43 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 27
ACCESSION NUMBER: 1993:493717 CAPLUS
DOCUMENT NUMBER: 119:93717
TITLE: Preparation of D-aminoacylase with Alcaligenes faecalis
INVENTOR(S): Tsai, Ying C.; Lin, Chyuan S.; Tseng, Ching P.; Yang, Yunn B.
PATENT ASSIGNEE(S): National Science Council of Republic of China, Taiwan
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5206162	A	19930427	US 1991-778240	19911017 <--
PRIORITY APPLN. INFO.:			US 1991-778240	19911017

AB The title enzyme is produced by culturing A. faecalis DA-1 (CCRC 14817) in a medium containing N-acetyl-DL-Met or -Leu. The D-aminoacylase has a mol. weight of 55,000, a pI of 5.35, and an optimum pH of 8.0. The activity of this enzyme with N-acetyl-L-Met is 0.8% that of its activity with N-acetyl-D-Met.

L2 ANSWER 44 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 32
ACCESSION NUMBER: 1992:36655 CAPLUS
DOCUMENT NUMBER: 116:36655
TITLE: Production and characterization of N-acyl-D-glutamate amidohydrolase from Pseudomonas sp. strain 5f-1
AUTHOR(S): Sakai, Kenji; Oshima, Koji; Moriguchi, Mitsuaki
CORPORATE SOURCE: Fac. Eng., Oita Univ., Oita, 870-11, Japan
SOURCE: Applied and Environmental Microbiology (1991), 57(9), 2540-3
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N-Acyl-D-glutamate amidohydrolase from Pseudomonas sp. strain 5f-1 was inducibly produced by D isomers of N-acetylglutamate, glutamate, aspartate, and asparagine. The enzyme has been purified to homogeneity by DEAE-cellulose, (NH4)2SO4 fractionation, and chromatofocusing followed by gel filtration on a Sephadex G-100 column. The enzyme was a monomer with mol. weight of 55,000. The enzyme activity was optimal at pH 6.5 to 7.5 and 45°C. The isoelec. point and the pH stability were 8.8 and 9.0, resp. N-Formyl, N-acetyl, N-butyryl, N-propionyl, N-chloroacetyl derivs. of D-glutamate and glycyl-D-glutamate were substrates for the enzyme. At pH 6.5 in 100 mM N-2-hydroxyethylpiperazine-N'-2-ethanesulfonic acid (HEPES) buffer at 30°C, a Km of 6.67 mM and a Vmax of 662 μmol/min/mg of protein for N-acetyl-D-glutamate were obtained. None of the metal ions stimulated the enzyme activity. Na+, K+, Mg2+, and Ba2+ acted as stabilizers. Hg2+, Cu2+, Zn2+, Fe3+, and EDTA were strongly inhibitory.

L2 ANSWER 45 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 35
ACCESSION NUMBER: 1991:60465 CAPLUS
DOCUMENT NUMBER: 114:60465
TITLE: D-aminoacylase manufacture with Alcaligenes
INVENTOR(S): Moriguchi, Mitsuaki
PATENT ASSIGNEE(S): Daiichi Kagaku Yakuhin K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02234677	A2	19900917	JP 1989-52830	19890307 <--
JP 2869793	B2	19990310		
PRIORITY APPLN. INFO.:			JP 1989-52830	19890307

AB D-Aminoacylase (I), useful for manufacturing D-glutamate from N-acetyl-D-glutamic acid (II), is manufactured by culturing I-producing Alcaligenes in a culture medium containing II. A. Xylosoxydans xylosoxydans A-6 was shake-cultured in the presence of N-acetyl-DL-glutamic acid as an inducer for 16 h at 30°. After centrifugation, the cells 21.6g (wet weight) were collected and processed to recover 13.3 g I (yield, 17%) by extraction, (NH4)2SO4-fractionation, and chromatog. The enzyme was highly specific for II. The thermostability and pH optimum of I and morphol. and physiol. characteristics of A. Xylosoxydans xylosoxydans were given.

L2 ANSWER 46 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 36
ACCESSION NUMBER: 1989:613341 CAPLUS
DOCUMENT NUMBER: 111:213341
TITLE: D-aminoacylase manufacture with Alcaligenes
INVENTOR(S): Moriguchi, Mitsuaki
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01005488	A2	19890110	JP 1987-161493	19870629 <--
JP 07083711	B4	19950913		
PRIORITY APPLN. INFO.:			JP 1987-161493	19870629

AB D-Aminoacylase (I) having a mol. weight of 60,000 dalton

and specificity to N-acyl-L-amino acid is manufactured by cultivating A. denitrificans subsp. Xylosoxydans. I was cultured in 90 L medium containing N-acetyl-methionine as inducing substance, glucose, yeast extract, and salts for 22 h at 30°. After centrifugation, 150 g cells were extracted to obtain I 0.55 mg (sp. activity, 82.7 unit/mg protein). Enzymic characteristics of I such as substrate specificity, thermal stability, inhibitors, optimal pH, etc. were also given.

L2 ANSWER 47 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 41
ACCESSION NUMBER: 1987:552903 CAPLUS
DOCUMENT NUMBER: 107:152903
TITLE: D-aminoacylase production with Streptomyces species
INVENTOR(S): Sugie, Makiko; Tomizuka, Noboru; Sato, Akio; Suzuki, Hideo; Goto, Tatsuo; Sugawara, Kunio
PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan; Daicel Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62126976	A2	19870609	JP 1985-265860	19851126 <--
JP 02021797	B4	19900516		

PRIORITY APPLN. INFO.: JP 1985-265860 19851126
AB D-Aminoamylase is produced by cultivation of a Streptomyces mutant that produce D-aminoamylase but not L-aminoamylase. Thus, S. tuirus 0-33 spores were inoculated into a culture medium containing soluble starch, maltose, glycerin, polypeptone, yeast extract, meat extract, and corn steep liquor. NaCl and DL-valine, the culture was cultivated at 30° for 4 days, and the cells were sonicated to rupture. The crude enzyme preparation obtained converted N-acryl-D-valine to D-valine (99.5%).

L2 ANSWER 48 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 42
ACCESSION NUMBER: 1987:574412 CAPLUS
DOCUMENT NUMBER: 107:174412
TITLE: D-Aminoacylase-producing Streptomyces tuirus
INVENTOR(S): Sugie, Makiko; Tomizuka, Noboru; Sato, Akio; Suzuki, Hideo; Goto, Tatsuo; Sugawara, Kunio
PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan; Daicel Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62126969	A2	19870609	JP 1985-265861	19851126 <--
JP 03078992	B4	19911217		

PRIORITY APPLN. INFO.: JP 1985-265861 19851126
OTHER SOURCE(S): CASREACT 107:174412
AB A S. tuirus mutant produces D-aminoacylase but not L-aminoacylase. Thus, S. tuirus 0-33 screened was cultured in a medium containing soluble starch, maltose, glycerol, peptone, yeast extract, meat extract,

corn steep liquor, NaCl and DL-valine at 30° for 4 days. The cells were collected and ruptured by sonication to give a crude enzyme preparation which specifically converts N-acetyl-D-valine to D-valine (99.5%) but not N-acetyl-L-valine to L-valine (0.4%).

L2 ANSWER 49 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:89878 CAPLUS
DOCUMENT NUMBER: 136:156403
TITLE: Methods for identifying therapeutic targets for treating infectious disease
INVENTOR(S): Shepard, Michael H.; Lackey, David B.; Cathers, Brian E.; Sergeeva, Maria V.
PATENT ASSIGNEE(S): Newbiotics, Inc., USA
SOURCE: PCT Int. Appl., 503 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002007780	A2	20020131	WO 2001-US23095		20010720 <--
WO 2002007780	A3	20030220			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2001077093	A5	20020205	AU 2001-77093		20010720 <--
US 2003130179	A1	20030710	US 2001-910345		20010720
PRIORITY APPLN. INFO.:			US 2000-219598P	P	20000720
			US 2000-244953P	P	20001101
			US 2001-276728P	P	20010316
			WO 2001-US23095	W	20010720

AB This invention provides methods and systems to identify enzymes that act as enzyme-catalyzed therapeutic activators and the enzymes identified by these methods. Also provided by this invention are compds. activated by the enzymes as well as compns. containing these compds.

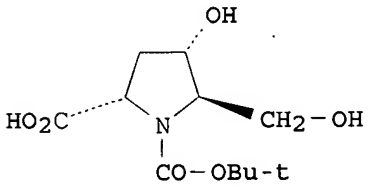
L2 ANSWER 50 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:644986 CAPLUS
DOCUMENT NUMBER: 137:197513
TITLE: Deinococcus radiodurans N-acylamino acid racemase gene and use for racemizing N-acylamino acids and producing optically active amino acids
INVENTOR(S): Mihashi, Kazuya; Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002238581	A2	20020827	JP 2001-44842	20010221 <--
PRIORITY APPLN. INFO.:			JP 2001-44842	20010221
OTHER SOURCE(S):		CASREACT 137:197513		

AB A method for racemizing N-acylamino acids with N-acylamino acid racemase

(NAAR) derived from Deinococcus radiodurans and a method for producing optically active amino acids using the racemization method are provided. The racemase of the present invention can efficiently catalyze the racemization of acylamino acid substrates including N-acylmethionine, N-acyltryptophan, and N-acylphenylalanine. Furthermore, this method can be applied to efficient production of optically active amino acids, which are useful, for example, as medicinal raw materials. NAAR gene was cloned from Deinococcus radiodurans, sequenced, and recombinantly expressed in E. coli. The enzyme was characterized for thermal stability, and pH optimum, as well as substrate specificity. N-acetylmethionine, N-acetyltryptophan, and N-acetylphenylalanine were preferred substrates. A requirement for divalent metal ions, Co2+, Mn2+, Zn2+, and Ni2+ for its activity was also found. Synthesis of optically pure D-tryptophan and L-tryptophan was demonstrated.

L2 ANSWER 51 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:97994 CAPLUS
DOCUMENT NUMBER: 136:401988
TITLE: An efficient stereoselective synthesis of Z-(2S)- and Z-(2R)-2-tert-butoxycarbonylamino-6-hydroxyhex-4-enoic acid, key intermediates in the synthesis of (2S,4S,5R)-(-)- and (2R,4R,5S)-(+)-bulgecinine
AUTHOR(S): Holt, Karen E.; Swift, Jonathan P.; Smith, Mark E. B.; Taylor, Stephen J. C.; McCague, Raymond
CORPORATE SOURCE: Chirotech Technology Ltd., Cambridge, CB4 0WG, UK
SOURCE: Tetrahedron Letters (2002), 43(8), 1545-1548
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:401988
GI



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AB A concise, scaleable route to both isomers of Z-2-tert-butoxycarbonylamino-6-hydroxyhex-4-enoic acid from 2-butyne-1,4-diol, utilizing L- and D-acylase enzymes is presented. These intermediates were readily converted to multigram quantities of N-Boc-(2S,4S,5R)- (I) and N-Boc-(2R,4R,5S)-bulgecinine.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 52 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:710160 CAPLUS
DOCUMENT NUMBER: 137:370340
TITLE: Chemoenzymatic Synthesis of the Four Diastereoisomers of 4-Hydroxypipecolic Acid from N-Acetyl-(R,S)-allylglycine: Chiral Scaffolds for Drug Discovery
AUTHOR(S): Lloyd, Richard C.; Smith, Mark E. B.; Brick, Dean; Taylor, Stephen J. C.; Chaplin, David A.; McCague, Raymond
CORPORATE SOURCE: Chirotech Technology Ltd., Cambridge, CB4 0WG, UK
SOURCE: Organic Process Research & Development (2002), 6(6), 762-766
CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:370340
AB All four diastereoisomers of 4-hydroxypipecolic acid were prepared in a form conveniently protected for drug discovery applications with the use of industrially scaleable methodol. Resolution of the racemic starting material using proprietary acylases followed by an acyliminium ion cyclization gave diastereomeric mixts. of 4-formyloxypipecolic acid, which were differentiated using an enzyme-catalyzed hydrolysis. The products were separated by partition, and by following a sequence of straightforward chemical steps, the individual stereoisomers of the protected 4-hydroxypipecolates were crystallized to optical purity in 100 g quantities.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 53 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:581757 CAPLUS
DOCUMENT NUMBER: 137:151884
TITLE: Prediction of conformational structure of proteins. Application to uncrystallizable enzymes
AUTHOR(S): Wakayama, Mamoru; Moriguchi, Mitsuaki; Ota, Motonori; Nishikawa, Ken
CORPORATE SOURCE: Fac. Sci. Eng., Ritsumeikan Univ., Japan
SOURCE: Kagaku to Seibutsu (2002), 40(7), 452-459
CODEN: KASEAA; ISSN: 0453-073X
PUBLISHER: Gakkai Shuppan Senta
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review on the history of prediction methods of three-dimensional structure of proteins, 3D-1D method and PSI-BLAST, usefulness of GTOP, prediction of three-dimensional structure of N-acyl-D-amino acid amidohydrolase by GTOP, and three-dimensional model structure of D -aminoacylase.

L2 ANSWER 54 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:444516 CAPLUS
DOCUMENT NUMBER: 135:46450
TITLE: Preparation of D-amino acids by removing proteins
INVENTOR(S): Kishishita, Akihiro; Haga, Koji; Noguchi, Kazuyoshi; Ito, Mika; Oya, Keiko
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001163844	A2	20010619	JP 1999-350667	19991209 <--
PRIORITY APPLN. INFO.:			JP 1999-350667	19991209

AB D-Amino acids containing ≤30 ppm proteins are prepared by acidifying aqueous solns. of D-amino acids prepared by a process in which the products are contaminated with proteins. Purification by cationic surfactants and activated C and crystallization may be further performed. D-Phenylalanine (I; prepared by enantioselective deacetylation of acetyl-DL-phenylalanine with D -aminoacylase) containing 130 ppm proteins was dissolved in H2O using H2SO4 and NaHSO3 at 30° and the solution (pH 0.30) was treated with Sanisol C (benzalkonium chloride) at 30° for 1 h. The mixture was treated with activated C at 30° for 1 h and filtered. The filtrate was mixed with NaHSO3 and EDTA-2Na, heated to 55°, and neutralized with NaOH solution The mixture was gradually cooled from

60° to 37° over 2 h 18 min and aged at 37° for 1 h to give I containing ≥10 ppm proteins.

L2 ANSWER 55 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:654738 CAPLUS
DOCUMENT NUMBER: 135:225944
TITLE: Methods for racemizing N-acylamino acids and producing optically active amino acids
INVENTOR(S): Matsuyama, Akinobu; Tokuyama, Shinji
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1130108	A1	20010905	EP 2001-105042	20010301 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001314191	A2	20011113	JP 2001-51279	20010226 <--
US 2002102662	A1	20020801	US 2001-794534	20010227 <--
US 6664083	B2	20031216		
PRIORITY APPLN. INFO.:			JP 2000-60358 A	20000301

AB A method for racemizing with N-acylamino acid racemase (NAAR) derived from Sebekia benihana and a method for producing optically active amino acids using the racemization method are provided. The racemase of the present invention can efficiently catalyze the racemization of acylamino acid substrates including N-acyl alanine, N-acyl aspartic acid, N-acyl leucine, and N-acyl valine. Furthermore, this method can be applied to efficient production of optically active amino acids, which are useful, for example, as medicinal raw materials.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 56 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:278116 CAPLUS
DOCUMENT NUMBER: 132:304310
TITLE: Alcaligenes D-aminoacylase gene and its use in production of D-amino acids
INVENTOR(S): Taylor, Stephen John Clifford; Brown, Robert Christopher
PATENT ASSIGNEE(S): Chirotech Technology Limited, UK
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000023598	A1	20000427	WO 1999-GB3458	19991020 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2347079	AA	20000427	CA 1999-2347079	19991020 <--

AU 9962227 A1 20000508 AU 1999-62227 19991020 <--
EP 1121446 A1 20010808 EP 1999-949259 19991020 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002527110 T2 20020827 JP 2000-577305 19991020 <--
PRIORITY APPLN. INFO.: GB 1998-22947 A 19981020
GB 1999-7739 A 19990401
WO 1999-GB3458 W 19991020

AB The title gene and the enzyme encoded by this gene are disclosed. The enzyme is capable of hydrolyzing N-acetyl-D-tryptophan at a substrate concentration of 10 g/l and exhibits faster conversion of (R)-N-acetyl-2-thienylalanine than of (R)-N-acetyl-4-chlorophenylalanine. Microbial transformants expressing this gene and a process for preparing D-amino acids using the enzyme are further disclosed. The gene was expressed in Escherichia coli and lysates thereof were used to deacetylate a number of N-acetyl-D-amino acid derivs.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 57 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:709253 CAPLUS
DOCUMENT NUMBER: 134:85142
TITLE: Choice of biocatalyst in the development of industrial biotransformations
AUTHOR(S): Taylor, Stephen J. C.; Holt, Karen Elizabeth; Brown, Rob C.; Keene, P. A.; Taylor, Ian Nicholas
CORPORATE SOURCE: Biocatalysis Group, Chirotech Technology Ltd., Cambridge, UK
SOURCE: Stereoselective Biocatalysis (2000), 397-413. Editor(s): Patel, Ramesh N. Marcel Dekker, Inc.: New York, N. Y.
CODEN: 69ALWO
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English

AB A review, with 35 refs., is presented to illustrate the use of biocatalytic methods for the synthesis of chiral intermediates and, in particular, highlight some of the factors that have influenced the choice of biocatalyst used. Industrial biotransformations require both isolated enzymes and microbial enzymes. Many biotransformation processes begin with the use of a com. available enzyme, allowing process parameters to be defined and problems to be identified at an early stage, while giving access to up to multi-kilogram quantities of the chiral target. However, as the process matures and cost considerations become important, or if there is simply not an isolated enzyme available, the ability to screen for and identify a microbial source of the enzyme is vital. Further development by cloning an enzyme has the obvious benefit of reducing the cost of the biocatalyst through over-expression. However, what can be equally important is the dramatic impact that use of a cloned enzyme can have on the overall design of a process, where product recovery in particular becomes much easier.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

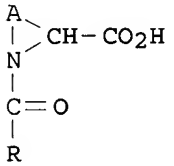
L2 ANSWER 58 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:127042 CAPLUS
DOCUMENT NUMBER: 130:181557
TITLE: Method for producing cyclic α-amino acids free from enantiomers or their N-protected derivatives by means of a D-specific aminoacylase
INVENTOR(S): Sauter, Martin; Werbitzky, Oleg
PATENT ASSIGNEE(S): Lonza AG, Switz.
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907873	A1	19990218	WO 1998-EP5087	19980811 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2299324	AA	19990218	CA 1998-2299324	19980811 <--
AU 9893412	A1	19990301	AU 1998-93412	19980811 <--
EP 1005563	A1	20000607	EP 1998-946316	19980811 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, IE, FI				
JP 2002509441	T2	20020326	JP 1999-511717	19980811 <--

PRIORITY APPLN. INFO.: CH 1997-1888 A 19970811
CH 1997-2868 A 19971212
WO 1998-EP5087 W 19980811

OTHER SOURCE(S): MARPAT 130:181557
GI



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AB The invention relates to new microorganisms capable of utilising a N-protected cyclic amino acid derivative, selected from the compds. of the general formula (I), in the form of the racemate or 1 of its optical isomers, where A together with -N- and -CH is a possibly substituted 4-, 5-, 6-, or 7-membered heterocyclic ring and R1 is a possibly substituted alkyl, alkoxy, aryl or aryloxy, and/or are capable of hydrolyzing a N-protected cyclic amino acid derivative, selected from among the compds. of the general formula I, as well as to enzyme exts. thereof. The invention also relates to a new method for producing N-protected cyclic L-amino acid derivs. and cyclic D-amino acids by using said microorganisms.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 59 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:162441 CAPLUS
DOCUMENT NUMBER: 114:162441
TITLE: Inducer for enhanced manufacture of enzyme with microorganism
INVENTOR(S): Moriguchi, Mitsuaki
PATENT ASSIGNEE(S): Daiichi Kagaku Yakuhin K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02234676	A2	19900917	JP 1989-55731	19890308 <--

JP 2869794 B2 19990310
PRIORITY APPLN. INFO.: JP 1989-55731 19890308
OTHER SOURCE(S): MARPAT 114:162441
AB tert-Bu group-containing amino acids (I) are used to enhance the manufacture of optically active acid-producing enzyme (II) with microorganisms. I are not utilized by II, therefore they are able to stably induce the production of II. The concentration of I used is 0.005-0.5 weight%, preferably 0.02-0.2 weight%.
Alcaligenes denitrificans xylosoxydans, a D-aminoacylase -producing microorganism was shake-cultured in culture medium with/without the addition of D-γ-Me leucine (III) 0.25% at 30°, and at the end of cultivation the enzymic activity of D-amine acylase was determined With the addition of III, the specific activity of the enzymes was 2.16 unit/mg; with the addition of inducer of prior arts, it was 0.08-0.13; without addition, it was 0.02.

L2 ANSWER 60 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:452103 CAPLUS
DOCUMENT NUMBER: 113:52103
TITLE: Interactions of cytostatic compounds with urinary enzymes. Part 1. Influence of human renal acylase
AUTHOR(S): Huetter, H. J.; Pantschewa-Haschen, Raina
CORPORATE SOURCE: Bereich Med., Martin-Luther-Univ. Halle-Wittenberg, Halle, DDR-4020, Ger. Dem. Rep.
SOURCE: Zeitschrift fuer Medizinische Laboratoriumsdiagnostik (1990), 31(4), 225-30
CODEN: ZMLADB; ISSN: 0323-5637
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Various xenobiotics (actinomycin D, adriablastin, bleomycin, chlorbutin, cyclophosphamide, cyclosporin A, vinblastin, rubomycin) inhibited acylase (I, E.C. 3.5.1.14) in a cytosol fraction isolated from human kidneys by homogenization and ultracentrifugation. Kinetic studies indicated both competitive and noncompetitive mechanisms. Further, the enzyme was also inactivated by pH values of 4.5-5.8, corresponding to those present in urine. I is therefore not suitable as an indicator enzyme for cytostatic-induced nephrotoxicity.

L2 ANSWER 61 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:530601 CAPLUS
DOCUMENT NUMBER: 113:130601
TITLE: Enzymic synthesis of D-amino acids and their derivatives
AUTHOR(S): Asano, Yasuhisa
CORPORATE SOURCE: Sagami Chem. Res. Cent., Sagamihara, 229, Japan
SOURCE: Baiosaiensu to Indasutori (1990), 48(2), 131-7
CODEN: BIDSE6; ISSN: 0914-8981
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 41 refs. on the synthesis of D-amino acids by fermentation and enzymic processes with D-amino acid transaminase, D-aminoacylase, D-aminopeptidase, and enzymes which catalyze asym. hydrolysis of amino acid carbamate. Synthesis of D-Cys from 3-chloroalanine using 3-chloro-D-alanine dehydrochlorinase is described. Enzymic syntheses of D-amino acid containing peptides using D-aminopeptidase are also reviewed.

L2 ANSWER 62 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:530713 CAPLUS
DOCUMENT NUMBER: 113:130713
TITLE: Hollow fiber reactors for biotransformations
INVENTOR(S): Kajiwara, Masahiro
PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01199571	A2	19890810	JP 1988-23559	19880202 <--

PRIORITY APPLN. INFO.: JP 1988-23559 19880202

AB A continuous enzymic reaction method is disclosed using a biochem. reactor consisting of modules containing a cellulose ester-type hollow fiber membrane (150-350 μ inside diameter, 5-30 μ thick). In addition, the membrane is permeable to substrates and reaction products, but not to enzymes. Manufacture of (S)-1-phenylpropagylacetate and (R)-1-phenylpropagylalc. from (RS)-1-phenylpropagylacetate was demonstrated using a cellulose diacetate-type hollow-fiber reactor (200 μ inside diameter, 15 μ thickness) containing Aspergillus aminoamylase.

L2 ANSWER 63 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:628558 CAPLUS
DOCUMENT NUMBER: 111:228558
TITLE: Isolation of proteins by chromatography
INVENTOR(S): Kasai, Yoshio; Watanabe, Haruo
PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01027467	A2	19890130	JP 1987-181328	19870721 <--

PRIORITY APPLN. INFO.: JP 1987-181328 19870721

AB Chromatog. separation of proteins uses cellulose bound to butylamine via a spacer. Thus, cellulose was epoxylated and reacted with n-butylamine to obtain butyl cellulose. Luciferase was isolated from Photobacterium phosphoreum by extraction and chromatog. on DEAE-Sephadex A50 and butyl cellulose.

L2 ANSWER 64 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:420493 CAPLUS
DOCUMENT NUMBER: 111:20493
TITLE: Quantitative determination of polyamines in body fluids by measurement of aminoalkylaldehyde formation
INVENTOR(S): Okada, Masato; Sakamoto, Makoto; Kikuchi, Masayoshi
PATENT ASSIGNEE(S): Tokuyama Soda Co., Ltd., Japan
SOURCE: Ger. Offen., 14 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3811084	A1	19881124	DE 1988-3811084	19880331 <--
DE 3811084	C2	19940505		
JP 63248388	A2	19881014	JP 1987-82206	19870404 <--
JP 06006055	B4	19940126		
JP 01027499	A2	19890130	JP 1988-1301	19880108 <--

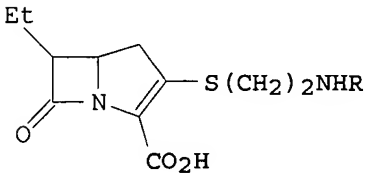
PRIORITY APPLN. INFO.: JP 1987-82206 A 19870404
JP 1987-95218 A 19870420

AB A method for quant. determination of polyamines comprises incubating the sample with a polyamine-oxidizing enzyme, an ω-aminoalkylaldehyde dehydrogenase, and an oxidized nicotinamide coenzyme and measuring the reduced nicotinamide coenzyme so produced. Reagent solution 1, containing Streptomyces acrylpolyamine amidohydrolase, Micrococcus putrescine oxidase and ω-aminoalkyaldehyde dehydrogenase, and oxidized nicotinamide coenzyme was added to sample solns. containing acetylputrescine, acetylcadaverine, and acetylspermidine. After incubation for 20 min at 37°, reagent 2, containing nitrotetrazolium blue and diaphorase was added. After 5 min at 37° followed by addition of HCl, the absorbance at 530 nm was determined The standard curve was linear between 0 and 240 μM polyamine. The same procedure was applied to polyamine determination in blood and urine. Bilirubin, reduced glutathione, and urea had no effect on the determination Ascorbic acid had a small effect.

L2 ANSWER 65 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:548117 CAPLUS
DOCUMENT NUMBER: 93:148117
TITLE: Antibiotic NS-5
PATENT ASSIGNEE(S): Sanraku-Ocean Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55042536	A2	19800325	JP 1978-115325	19780919 <--

PRIORITY APPLN. INFO.: JP 1978-115325 A 19780919
GI



I, R=H
II, R=Ac

AB Antibiotic NS-5 (I) [74806-75-0] is produced from antibiotic PS-5 (II) [67007-79-8] with L- or D-aminoacylase. Thus, 30 mg II was dissolved in 1 mL of 5 mM phosphate buffer (pH 8.0). Sep., 8 mg of a porcine pancreas acylase was dissolved in 10 mL of 10 mM phosphate buffer (pH 7.0). A mixture of 5 μL of the II solution, 20 μL of the enzyme solution, and 10 μL of 0.25M phosphate buffer (pH 7.4) was made to 50 μL with water and reacted at 30° for 3 h to yield I.

L2 ANSWER 66 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:512323 CAPLUS
DOCUMENT NUMBER: 93:112323
TITLE: D-Aminoacylase
PATENT ASSIGNEE(S): Sanraku-Ocean Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 55042534	A2	19800325	JP 1978-115323	19780919 <--
JP 60031477	B4	19850722		

PRIORITY APPLN. INFO.: JP 1978-115323 A 19780919

AB A D-aminoacylase (I) [65979-42-2] was produced by culturing a facultatively MeOH-assimilating bacterium at 10-40° and at pH 4.0-9.0. I was reactive to N-acyl D-amino acids but not to N-acyl glucosamines or N-acyl ethanolamines, optimally reacting at .apprx.80° and at pH 7.4. I was stable at <80° and at pH 6-7 and had a mol. weight of 100,000, an isoelec. point of 4.95, and an elemental anal. of C 54.33, H 7.19, and N 16.37. I was inhibited by Hg2+, Cu2+, and p-chloromercuribenzoate. Thus, Pseudomonas species 1158 was cultured with shaking at 28° for 4 days on 100 mL medium (pH 7.0) containing glucose 2, Pharmamedia 0.8, and corn steep liquor 0.5%. The culture cells were suspended in 500 mL of 0.01M phosphate buffer (pH 7.4) and sonicated to yield an extract The extract (830 mL) was mixed with 3 g streptomycin H2SO4 and centrifuged at 10,000 rpm for 30 min at 0° to yield 800 mL supernatant. I in the supernatant was precipitated with addition of (NH4)2SO4 and purified by column chromatog. on DEAE-Sephacel, Sephadex G-100, and G-200.

L2 ANSWER 67 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1978:595418 CAPLUS
DOCUMENT NUMBER: 89:195418
TITLE: D-Aminoacylase of Streptomyces
INVENTOR(S): Sugie, Makiko; Suzuki, Hideo; Kamibayashi, Akira
PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 53059092	A2	19780527	JP 1976-134912	19761110 <--
JP 53036035	B4	19780930		

PRIORITY APPLN. INFO.: JP 1976-134912 A 19761110

AB D-Aminoacylase [65979-42-2] is produced by a Streptomyces. Thus, S. olivaceus S-62 (FERM-P 3708) was aerobically cultured at 30° for 3 days on 20 L 0.1M phosphate buffer (pH 7.0) containing D-phenylglycine 0.4, yeast extract 1, and peptone 1% plus minerals. The culture cells (wet 600 g) were suspended in 0.05M phosphate buffer and sonicated to extract the D-aminoacylase. Yield of the enzyme was 9 units/mL. The enzyme had an optimum temperature and pH at 30° and 7.5, resp. It was stable at pH 7.5 and inactivated by treatment at 60° for 15 min. It was inhibited by HgCl2 or AgNO3. The mol. weight was estimated to be 45,000 by Sephadex G-100.

L2 ANSWER 68 OF 79 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:2217 CAPLUS
DOCUMENT NUMBER: 90:2217
TITLE: Studies on acylase activity and microorganisms. XXVI. Purification and properties of D-acylase (N-acyl-D-amino acid amidohydrolase) from AAA 6029 (Pseudomonas sp.)
AUTHOR(S): Kameda, Yukio; Hase, Tetsu; Kanatomo, Shoichi; Kita, Yoko
CORPORATE SOURCE: Sch. Pharm., Hokuriku Univ., Kanazawa, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1978), 26(9), 2698-704
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal

LANGUAGE: English
AB Pseudomonas AAA 6029 isolated from soil in a synthetic medium containing N-benzoyl-D-phenylalanine as sole source of carbon, produces a D-acylase which hydrolyzes N-acyl-D-amino acids. The D-acylase was extracted by sonication and purified by (NH4)2SO4 fractionation, DEAE-cellulose chromatog., and Sephadex G-100 gel filtration. The purified enzyme represented 900-fold purification over the cell-free extract The mol. weight of the enzyme was estimated to be .apprx.45,000 by gel filtration. This enzyme can hydrolyze N-benzoyl and N-acetyl derivs. of the D-form of phenylalanine, methionine, leucine, alanine, and valine, but cannot hydrolyze N-acyl derivs. of L-amino acids.

L2 ANSWER 69 OF 79 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1996-03966 BIOTECHDS
TITLE: Overexpression of the gene for N-acylamino acid-racemase from Amycolatopsis sp. TS-1-60 in Escherichia coli and continuous production of optically active methionine by a bioreactor; industrial-scale recombinant enzyme preparation, purification and immobilization for continuous stereospecific L- and D-methionine production
AUTHOR: Tokuyama S; Hatano K
CORPORATE SOURCE: Takeda-Chem.
LOCATION: Technology Development Division Takeda Chemical Industries Ltd., 17-85 Juso-honmachi 2-chome, Yodogawa-ku, Osaka 532, Japan.
SOURCE: Appl.Microbiol.Biotechnol.; (1996) 44, 6, 774-77
CODEN: EJABDD
ISSN: 0175-7598
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 1996-03966 BIOTECHDS
AB For large-scale production of recombinant N-acylamino-acid-racemase (ARR) in Escherichia coli, the gene was inserted downstream of the T7 promoter in plasmid pET3c. E. coli MM294 harboring plasmid pET3cN was cultured in a 50 l fermentor containing 20 l Lusia-Bertani medium at 28 deg for 34 hr with aeration (50%) and agitation (450 rpm). The enzyme productivity was 22,300 U/l culture broth, which was about 1100-fold higher than that with Amycolatopsis sp. TS-1-60, the DNA donor strain, and accounted for 17% of the soluble protein. The AAR was purified to homogeneity by heat treatment and Butyl-Toyopearl column chromatography to exhibit a 6-fold increase in specific activity, with a 65% yield. AAR and Streptomyces atratus Y-53 L-aminoacylase (EC-3.5.1.14) or Amycolatopsis sp. TS-1-60 D-aminoacylase were immobilized with 10 mM DEAE-Toyopearl 650M and packed into a column. A mixture of 25 mM N-acetyl-DL-methionine and 2 mM CoCl2 in 50 mM Tris-HCl buffer (pH 7.5) was passed through the column to continuously produce L-methionine and D-methionine with yields of more than 99% and 90%, respectively. (10 ref)

L2 ANSWER 70 OF 79 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1992-14351 BIOTECHDS
TITLE: Characterization of D-aminoacylase from Alcaligenes denitrificans; new aminoacylase characterization (conference abstract)
AUTHOR: Yang Y B; Tsai Y C
LOCATION: National Yang-Ming Medical College, Taiwan, Republic of China.
SOURCE: Nippon Nogeikagaku Kaishi; (1992) 66, 3, 3Sa13
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 1992-14351 BIOTECHDS
AB D-aminoacylase (DA, EC-3.5.1.14) produced by Alcaligenes denitrificans DA-181 is a new type of aminoacylase which has the following characteristics: (1) high stereospecificity and specific

activity; (2) mol.weight 58,000; (3) pI 4.4; (4) apparent Km and Kcat value of DA for N-acetyl D-methionine, 0.48 mM and 624000/min, respectively; (5) optimum temperature 45 deg; (6) stability up to 55 deg for 1 hr in the presence of cattle serum albumin; (7) stable pH range 6.0-11.0, optimum 7.5; (8) 2.1 g atom of zinc per mol of enzyme; and (9) inhibition by p-chloromercuribenzoic acid, N-ethylmaleimide, tetranitromethane, diethylpyrocarbonate and EDTA. Inhibition by EDTA was recovered fully by Co2+ and partially by Zn2+, indicating that cysteine, tyrosine and histidine residues and Zn 2+ may participate in enzyme catalysis. (1 ref)

L2 ANSWER 71 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:838479 SCISEARCH
THE GENUINE ARTICLE: 369YP
TITLE: New enzymes acting on peptides containing D-Amino acids: Their properties and application
AUTHOR: Asano Y (Reprint)
CORPORATE SOURCE: Toyama Prefectural Univ, Biotechnol Res Ctr, 5180 Kurokawa, Toyama 9390398, Japan (Reprint); Toyama Prefectural Univ, Biotechnol Res Ctr, Toyama 9390398, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY, (OCT 2000) Vol. 10, No. 5, pp. 573-579.
ISSN: 1017-7825.
PUBLISHER: KOREAN SOC APPLIED MICROBIOLOGY, KOREA SCI TECHNOL CENTER #507, 635-4 YEOGSAM-DONG, KANGNAM-GU, SEOUL 135-703, SOUTH KOREA.
DOCUMENT TYPE: General Review; Journal
LANGUAGE: English
REFERENCE COUNT: 54
ENTRY DATE: Entered STN: 2000
Last Updated on STN: 2000

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Knowledge on the enzymes acting on D-amino-acid-containing peptides appears to be somewhat limited when compared with those acting on peptides composed of L-amino acids. Less than ten D-stereospecific enzymes are hitherto known. This review describes about several novel D-stereospecific peptidases and amidases of microbial origin, including D-aminopeptidase (E.C. 3.4.11.19), alkaline D-peptidase, and D-amino acid amidase, which are applied to the synthesis of D-amino acids and/or D-amino acid derivatives.

L2 ANSWER 72 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1998:682556 SCISEARCH
THE GENUINE ARTICLE: 117RJ
TITLE: Degradation of derivatives of N-acetyl-D-glucosamine by Rhodococcus rhodochrous IFO 15564: Substrate specificity and its application to the synthesis of allyl alpha-N-acetyl-D-glucosaminide
AUTHOR: Kuboki A; Komiya R; Sekiguchi T; Katsuragi K; Sugai T (Reprint); Ohta H
CORPORATE SOURCE: Keio Univ, Dept Chem, Kohoku Ku, 3-14-1 Hiyoshi, Yokohama, Kanagawa 2238522, Japan (Reprint); Keio Univ, Dept Chem, Kohoku Ku, Yokohama, Kanagawa 2238522, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (AUG 1998) Vol. 62, No. 8, pp. 1581-1585.
ISSN: 0916-8451.
PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO, 113, JAPAN.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English

REFERENCE COUNT: 27
ENTRY DATE: Entered STN: 1998
Last Updated on STN: 1998
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The substrate specificity was studied for the metabolic degradation of N-acetyl-D-glucosamine (GlcNAc) derivatives by Rhodococcus rhodochrous IFO 15564 which possesses N-acetyl-D-glucosamine deacetylase as a key-step enzyme. This microorganism degraded a wide range of substrates with modified N-acyl groups. The metabolizing activity of this strain became low to the substrates substituted at 1,3,4,6-positions of GlcNAc, and GlcNAc itself was suggested to be metabolized via an open-chain aldehyde form. Based on these results, a simplified procedure for the isolation of allyl alpha-N-acetyl-D-glucosaminide from an alpha,beta-anomeric mixture was developed by selectively hydrolyzing the beta-anomer with Jackbean beta-N-acetyl-D-glucosaminidase and subsequently degrading the resulting N-acetyl-D-glucosamine in the reaction mixture with this microorganism.

L2 ANSWER 73 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1998:901480 SCISEARCH
THE GENUINE ARTICLE: 143PU
TITLE: Production of optically pure L-alanine by immobilized Pseudomonas sp. BA2 cells
AUTHOR: Santoyo A B (Reprint); Rodriguez J B; Carrasco J L G; Gomez E G; Rojo I A; Teruel M L A
CORPORATE SOURCE: Fac Quim, Dept Ingn Quim, Grp Ingn Bioquim, Campus Espinardo, Murcia 30071, Spain (Reprint); Fac Quim, Dept Ingn Quim, Grp Ingn Bioquim, Murcia 30071, Spain
COUNTRY OF AUTHOR: Spain
SOURCE: JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, (NOV 1998) Vol. 73, No. 3, pp. 197-202.
ISSN: 0268-2575.
PUBLISHER: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19 1UD, ENGLAND.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 22
ENTRY DATE: Entered STN: 1998
Last Updated on STN: 1998
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The conditions for immobilizing the new L-aminoacylase-producing bacterial strain, Pseudomonas sp. BA2, by entrapment in kappa-carrageenan gel, were investigated. The optimal gel concentration and cell load were determined. The addition of CoCl2 and N-acetyl-L-alanine to the immobilizing matrix enhanced L-aminoacylase activity. The enzymatic properties of immobilized Pseudomonas sp. BA2 were investigated. Enzyme activity in immobilized cells was optimal at a pH of 6.5 using 0.15 mol dm(-3) Tris-maleate buffer at 45 degrees C. The presence of 0.7 mmol dm(-3) CoCl2 in the enzymatic reaction mixture improved L-aminoacylase activity. The immobilized cell preparation was used for the production of L-alanine from N-acetyl-DL-alanine in a batch reactor. Conversions of 100% were obtained using substrate concentrations ranging from 20 to 200 mmol dm(-3). The reactor production was 0.74 mol h(-1) g cell(-1) dm(-3) which is noticeably higher than that previously reported in the literature. (C) 1998 Society of Chemical Industry.

L2 ANSWER 74 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1998:43604 SCISEARCH
THE GENUINE ARTICLE: YP233
TITLE: Industrial biotransformations for the production of D-amino acids
AUTHOR: Yagasaki M; Ozaki A (Reprint)
CORPORATE SOURCE: Kyowa Hakko Kogyo Co Ltd, Tokyo Res Labs, 3-6-6 Asahi Machi, Tokyo 194, Japan (Reprint); Kyowa Hakko Kogyo Co

Ltd, Tokyo Res Labs, Tokyo 194, Japan; Kyowa Hakko Kogyo Co Ltd, Tech Res Labs, Yamaguchi 747, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC, (2 JAN 1998) Vol. 4, No. 1-2, pp. 1-11.
ISSN: 1381-1177.
PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
DOCUMENT TYPE: General Review; Journal
LANGUAGE: English
REFERENCE COUNT: 79
ENTRY DATE: Entered STN: 1998
Last Updated on STN: 1998
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Optically pure D-amino acids are industrially manufactured by biotransformations of cheap starting materials produced by chemical synthesis or fermentation in combination with the development of enzyme catalysts suitable for the starting materials. DL-Alaninamide, an intermediate of the chemical synthesis of DL alanine, was efficiently converted to D-alanine by stereoselective hydrolysis with a D-isomer specific amidohydrolase produced by Arthrobacter sp. NJ-26. The total utilization system of DL-alaninamide for the production of optically pure D-and L-alanine was constructed by stereospecific amidohydrolases. On the other hand, D-amino acids were also produced from corresponding L-isomers, which are efficiently manufactured by fermentation. D-Glutamic acid was produced from L-glutamic acid. L-Glutamate was converted to the DL-form by the recombinant glutamate racemase of Lactobacillus brevis ATCC8287. Then L-glutamate in a racemic mixture was selectively decarboxylated to gamma-aminobutyrate by the L-glutamate decarboxylase of E. coli ATCC11246. As a result of successive enzymatic reactions, D-glutamate was efficiently produced from L-glutamate by a one-pot reaction. D-Proline was produced by the same strategy from L-proline using the recombinant proline racemase of Clostridium sticklandii ATCC12262. In this case, L-proline was degraded by Candida sp. PRD-234. The strategy from L-amino acids to D-amino acids could be applicable to the manufacture of many D-amino acids. (C) 1998 Elsevier Science B.V.

L2 ANSWER 75 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1997:201519 SCISEARCH
THE GENUINE ARTICLE: WL876
TITLE: D-methionine preparation from racemic methionines by Proteus vulgaris IAM 12003 with asymmetric degrading activity
AUTHOR: Takahashi E (Reprint); Furui M; Seko H; Shibatani T
CORPORATE SOURCE: TANABE SEIYAKU CO LTD, PHARMACEUT DEV RES LAB, YODOGAWA KU, 16-89 KASHIMA 3 CHOME, OSAKA 532, JAPAN (Reprint); TANABE SEIYAKU CO LTD, PROD TECHNOL DIV, YODOGAWA KU, OSAKA 532, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (FEB 1997***) Vol. 47, No. 2, pp. 173-179.
ISSN: 0175-7598.
PUBLISHER: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 23
ENTRY DATE: Entered STN: 1997
Last Updated on STN: 1997
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The microbial degradation of L-methionine was investigated in order to develop a practical process for D-methionine production from racemic methionines. Among thp 1000 culture strains tested, microorganisms belonging to the Achromobacter, Bacillus, Micrococcus, Morganella,

Proteus, Providencia, Pseudomonas and Sarcina genera exhibited a high L-methionine-degrading activity. Proteus vulgaris IAM 12003 was determined to be the best strain and was used as a biocatalyst for eliminating the L-isomer. The degradation of L-isomer in this P. vulgaris IAM 12003 cell was assured by the action of L-amino acid oxidase. The maximum rate of L-isomer degradation was obtained at 30 degrees C and pH 8.0. Under these optimal conditions, the L-isomer in a 100 g/l mixture of racemic methionines was almost degraded within 20 h, with 46.5 g D-methionine/l remaining in the reaction mixture. Crystalline D-methionine, with a chemical purity greater than 99% and optical purity of 99.9% enantiomeric excess, was obtained at a yield of 30% from the reaction mixture by simple purification.

L2 ANSWER 76 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1996:548480 SCISEARCH
THE GENUINE ARTICLE: UY559
TITLE: Immobilization of Pseudomonas sp BA2 by entrapment in calcium alginate and its application for the production of L-alanine
AUTHOR: Santoyo A B (Reprint); Rodriguez J B; Carrasco J L G; Gomez E G; Rojo I A; Teruel L M A
CORPORATE SOURCE: UNIV MURCIA, FAC QUIM, DEPT INGN QUIM, GRP INGN BIOQUIM, CAMPUS ESPINARDO, MURCIA 30071, SPAIN (Reprint)
COUNTRY OF AUTHOR: SPAIN
SOURCE: ENZYME AND MICROBIAL TECHNOLOGY, (15 AUG 1996) Vol. 19, No. 3, pp. 176-180. ISSN: 0141-0229.
PUBLISHER: BUTTERWORTH-HEINEMANN, 225 WILDWOOD AVE #UNITB PO BOX 4500, WOBURN, MA 01801-2084.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 19
ENTRY DATE: Entered STN: 1996
Last Updated on STN: 1996

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The conditions for immobilizing the new L-aminoacylase-producing bacterial strain Pseudomonas sp. BA2 by entrapment in calcium alginate gel were investigated. The optimal gel concentration and cell loading were determined. It was demonstrated that the addition of the substrate N-acetyl-L-alanine to the immobilizing matrix enhanced L-aminoacylase activity. The enzymatic properties of immobilized Pseudomonas sp. BA2 were investigated to ascertain which conditions were suitable for the enzymatic reaction. Optimal pH, temperature, and concentration of Tris-maleate buffer were determined. The influence of adding CoCl2 on the enzymatic reaction rate was studied and the optimal concentration of the activator was determined.

Stability studies showed that the immobilized cell preparation is not adequate for use in repeated batch processes. Continuous operation in a stirred tank reactor allowed us to determine the biocatalyst half-life (7 h approximately) but, due to the high L-aminoacylase activity, the reactor productivity (24.5 mmol of L-alanine in 8 h) was noticeably higher than that previously obtained in a packed bed reactor with Aspergillus ochraceus pellets.

The results reported in this paper show the potential for using the immobilized Pseudomonas sp. BA2 in calcium alginate to produce L-alanine; however, before large scale production can be undertaken, further biocatalyst stabilization studies have to be made.

L2 ANSWER 77 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1993:481175 SCISEARCH
THE GENUINE ARTICLE: LP933
TITLE: PURIFICATION AND CHARACTERIZATION OF NOVEL

N-ACYL-D-ASPARTATE AMIDOHYDROLASE FROM ALCALIGENES-XYLOSOXYDANS SUBSP XYLOSOXYDANS A-6

AUTHOR: MORIGUCHI M (Reprint); SAKAI K; KATSUNO Y; MAKI T; WAKAYAMA M

CORPORATE SOURCE: OITA UNIV, FAC ENGN, DEPT APPL CHEM, OITA 87011, JAPAN (Reprint)

COUNTRY OF AUTHOR: JAPAN

SOURCE: BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY, (JUL 1993) Vol. 57, No. 7, pp. 1145-1148.
ISSN: 0916-8451.

PUBLISHER: JAPAN SOC BIOSCI BIOTECHN AGROCHEM, JAPAN ACAD SOC CTR BLDG, 2-4-6 YAYOI BUNKYO-KU, TOKYO 113, JAPAN.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE; AGRI

LANGUAGE: English

REFERENCE COUNT: 26

ENTRY DATE: Entered STN: 1994
Last Updated on STN: 1994

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Alcaligenes xylosoxydans subsp. xylosoxydans A-6 (Alcaligenes A-6) produced N-acyl-D-aspartate amidohydrolase (D-AAase) in the presence of N-acetyl-D-aspartate as an inducer. The enzyme was purified to homogeneity. The enzyme had a molecular mass of 56 kDa and was shown by sodium dodecyl sulfate (SDS)-polyacrylamide gel electrophoresis (PAGE) to be a monomer. The isoelectric point was 4.8. The enzyme had maximal activity at pH 7.5 to 8.0 and 50-degrees-C, and was stable at pH 8.0 and up to 45-degrees-C. N-Formyl (K(m) = 12.5 mM), N-acetyl (K(m) = 2.52 mM), N-propionyl (K(m) = 0.194 mM), N-butyryl (K(m) = 0.033 mM), and N-glycyl (K(m) = 1.11 mM) derivatives Of D-aspartate were hydrolyzed, but N-carbobenzoyl-D-aspartate, N-acetyl-L-aspartate, and N-acetyl-D-glutamate were not substrates. The enzyme was inhibited by both divalent cations (Hg2+, Ni2+,Cu2+) and thiol reagents (N-ethylmaleimide, iodoacetic acid, dithiothreitol, and p-chloromercuribenzoic acid). The N-terminal amino acid sequence and amino acid composition were analyzed.

L2 ANSWER 78 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1992:216697 SCISEARCH

THE GENUINE ARTICLE: HG839

TITLE: ENZYMATIC METHODS OF DECOMPOSITION OF AMINO-ACID RACEMATES AND THEIR DERIVATIVES

AUTHOR: VERKHOVSKAYA M A (Reprint); YAMSKOV I A

CORPORATE SOURCE: ACAD SCI USSR, INST NUTR SUBST, MOSCOW V-71, USSR (Reprint)

COUNTRY OF AUTHOR: USSR

SOURCE: USPEKHI KHIMII, (OCT 1991) Vol. 60, No. 10, pp. 2250-2280.
ISSN: 0042-1308.

PUBLISHER: MEZHDUNARODNAYA KNIGA, 39 DIMITROVA UL., 113095 MOSCOW, RUSSIA.

DOCUMENT TYPE: General Review; Journal

FILE SEGMENT: PHYS

LANGUAGE: Russian

REFERENCE COUNT: 119

ENTRY DATE: Entered STN: 1994
Last Updated on STN: 1994

L2 ANSWER 79 OF 79 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1991:244770 SCISEARCH

THE GENUINE ARTICLE: FH179

TITLE: A NEW ENZYME D-AMINOPEPTIDASE - STRUCTURE, FUNCTION, AND APPLICATION TO ORGANIC-SYNTHESIS

AUTHOR: ASANO Y

CORPORATE SOURCE: SAGAMI CHEM RES CTR, SAGAMIHARA, KANAGAWA 229, JAPAN

COUNTRY OF AUTHOR: JAPAN
SOURCE: JOURNAL OF SYNTHETIC ORGANIC CHEMISTRY JAPAN, (APR 1991) Vol. 49, No. 4, pp. 314-326.
ISSN: 0037-9980.
PUBLISHER: SOC SYNTHETIC ORGANIC CHEM JPN, CHEMISTRY HALL, 1-5 KANDA-SURUGADAI, CHIYODA-KU, TOKYO 101, JAPAN.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: PHYS
LANGUAGE: English
REFERENCE COUNT: 20
ENTRY DATE: Entered STN: 1994
Last Updated on STN: 1994
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A new enzyme named "D-Aminopeptidase" has been isolated and characterized from a soil bacterium Ochrobactrum anthropi SCRC Cl-38. It showed strict D-stereospecificity toward substrates including low molecular weight D-amino acid amides, D-alanine N-alkylamides, and peptides with a D-alanine at the N-terminus. The gene for the enzyme was cloned in Escherichia coli and an expression plasmid constructed. The amount of the enzyme in the cell-free extract of an E. coli transformant was elevated up to 288,000 units/liter culture, which is about 3,600-fold over that of O. anthropi SCRC Cl-38. The deduced amino acid sequence of the enzyme showed that it is related to the "penicillin-recognizing enzymes". Mutants of the enzyme were generated by site-specific mutagenesis. We propose that the enzyme is a new member of the "penicillin-recognizing enzymes". The cells of E. coli transformant were used as a catalyst for the D-stereospecific hydrolysis of several racemic amino acid amides HCl. The concentration of D-alanine reached up to 220 g/liter from racemic alanine amide HCl. D-Amino acid N-alkylamides were stereoselectively synthesized in organic solvents from racemic amino acid esters by the use of the enzyme immobilized by urethane prepolymer PU-6. The enzyme was also active in synthesizing D-alanine oligopeptides in non-aqueous media.

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